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Cystitis Cystica, As Developed From Brun's Nests*

With Treatment of Acute Cystitis With Collargol and Oil

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Cystitis or inflammation of the bladder, which, from the cases you have already seen here you have noted is an important subject of urology, since it complicates so many of the cases which we have to treat, is the subject of our discussion today.

Stricture, prostatitis, and calculus are all accompanied by cystitis which causes acute symptoms and much suffering. Cystitis, of course, like all other suppuration is caused by micro-organisms, but certain predisposing causes are necessary for these organisms to cause any harm. In fact, virulent cultures of bacteria have been injected, by way of experiment, into a sound and intact bladder without causing subsequent disturbance.

Among such predisposing causes are residual urine which accumulates behind a stricture or hypertrophied prostate thus affording a culture medium; or chronic congestion of the mucous membrane with erosion of the epithelium induced by calculus, prostatitis, hypertrophy or pregnancy. The normal epithelium acts as a barrier to the entrance of bacteria, but when desquamation occurs, gateways for their entrance are opened. Exposure to cold acts no doubt by lowering the vitality locally and permitting the organisms to become active.

The exciting cause of any cystitis is a micro-örganism of some form. The colon bacillus is probably the most frequent, and then follows staphylococcus, streptococcus, urobacilius liquefaciens, and many others.

These bacteria may enter the bladder in many ways. The urethra is a gateway, and they may be carried in on an unclean catheter, or the catheter itself may be clean, but both healthy and diseased urethras are abiding places of microörganisms, which are most abundant near the meatus, and the organisms may be pushed into the bladder in front of the catheter. In men, spontaneous infection from the urethra seldom occurs, but in women the organisms may enter the bladder without instrumental help. The female urethra is short and its outer end is bathed in vaginal secretions and the sphincter closing is often impaired by child-birth and inflammations.

Bacteria may also be carried from the kidneys in the urine, and very frequently the bladder is infected in this way. Infection in the kidney often results from suppuration of the kidney parenchyma or pelvis, but organisms circulating in the blood may pass through the glomeruli without causing suppuration of the kidney, and if an injury of the bladder mucous membrane exists, cystitis is induced. Many of the apparently spontaneous inflammations of the bladder may be explained by such a descending infection from the kidneys.

It is necessary to have a lesion of the mucosa to excite a cystitis, but the traumatism of unskilled catheterization, operations on the bladder or foreign bodies or residual urine from stricture, diverticulum, spinal disease, etc., venous hyperemia from exposure to cold, marked constipuation or pregnancy, when bacteria are present in the bladder, will excite a cystitis.

The virulence of the organisms plays an important part in the development of the cystitis and it is now recognized that bacteria besides those having the property of destroying urea can excite cystitis. Bacilli of the colon group which do not decompose urea, and also the staphylococcus, which may decompose urine but does not produce an ammonical urine, are most frequently responsible.

Organisms may also be carried to the bladder through the lymphatics from neighboring organs such as the mucous membrane of the colon, small infected anal fissures, inflamed hemorrhoids, or appendicitis, parametritis, salpingitis, etc.

The blood stream may be responsible for carrying bacteria to the bladder, and although inflammation back of the bladder wall by bacterial emboli is rare, it has been proved to exist, as in tuberculous cystitis developing in miliary tuberculosis, and in the development of the so-called solitary ulcer of the bladder which is today known to be due to the deposition of an embolus of infecting bacteria.

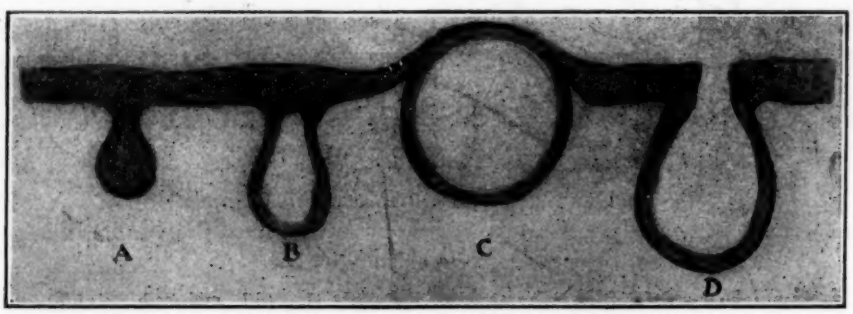
*Clinical lecture to the department of genito-urinary diseases and Syphilis of the Long Island College Hospital.

The study of the pathological changes in the bladder shows that the form of cystitis depends, first, on the severity of the infection; second, on the form of the exudate; a number of varieties have been recognized clinically. In catarrhal cystitis the inflammatory process is confined to the mucous membrane; the cystoscope shows it to be red, swollen and hyperemic, the blood vessels engorged and the connective tissue edematous. A few leucocytes pass through the vessels, but there is a considerable amount of epithelial desquamation. If the Bacillus coli is responsible for the inflammation, the urine remains acid, but other bacteria break down the urea and the urine becomes alkaline, with an ammonical sediment containing phosphates, desquamated cells and mucus.

Purulent cystitis presents much the same picture as the catarrhal form, but is more intense in character and there is a greater amount of pus.

brilliance to the surface. In the phlegmonous form, the suppuration extends into the submucous connective tissue. The leukoplakia or malaplakia of the bladder is formed by a metaplasia of the epithelium into hornified squamous cells like callus on the hands. In cystitis emphysematosa, gas bubbles form under the mucosa, and the surface is pushed up the vesicles appearing as little blebs.

Cystitis cystica or glandularis is a form of cystitis which has only of late been studied and understood. As seen with the cystoscope it consists in small vesicles, the size of a pin's head, which should not be confused with cystitis bullosa. These little cysts originate from fetal rests of epithelium which exist only in the kidney pelvis, urethra and bladder, and which are known as Brun's nests. Until stimulated by congestion and inflammation, these epithelial nests remain unnoticed causing no symptoms; but in consequence of congestion, their



CYSTITIS CYSTICA OR GLANDULARIS

A Bruns Nests.
B Bruns Nests liquification in center beginning.
C Bruns Nests converted into a cyst pushing up bladder mucous membrane above it.
D Cyst opened, discharging into bladder and lined when transformed columnar epithelum secreting mucous.

The acute hemorhagic form of cystitis is characterized by dilatation of the blood vessels and extravasation of red cells into the submucous layer. I was interested to observe in the cystoscopic clinics of Vienna, after the advent of the new wine, called "Heuriger Wein," in which people indulged freely, that many cases of hemorrhagic cystitis would present themselves for treatment at the clinics.

Fibrinous cystitis occurs in two forms, croupous and diphtheritic, both of which are characterized by the appearance of a false membrane upon the surface of the mucosa. In the croupous form, the pseudo-membrane lies upon the intact mucous membrane, while in the diphtheritic form it is attached to the deep parts of the submucous connective tissue and muscularis. In both forms, the effect of the bacteria is to cause a superficial necrosis with a coagulation layer of greenish or yellowish fibrin on the surface. A throwing off of the membrane leaves an ulcer with a hemorrahagic base which is surrounded by an inflammatory zone. In advanced cases of long standing, ulcers become deeper some of them cicatrizing and others being newly formed. A true diphtheria with Klebs-Loeffler bacillus may also exist.

An ulcerating cystitis begins as a small solitary ulcer. In times past, its etiology has been considered uncertain, but it is now thought to be due to a bacterial embolus. The ulcer grows larger and becomes the seat of incrustation from the breaking down and deposit of urinary salts.

In chronic cystitis, the commonest form seen in practice, is the proliferating, in which the capillary blood vessels push up the mucous membrane and form small prominences, giving a velvety appearance and loss of

growth is stimulated and they appear as a solid blossom which liquefies in the center, becomes filled with a homogeneous liquid, converting it into a cyst; as the cyst is distended it rises above the level, pushing the mucous membrane above it. The cyst then opens and discharges into the bladder, and its interior becomes lined with columnar epithelium secreting mucous.

When closed the condition is known as cystitis cystica, but after the cysts have opened, it is known as cystitis glandularis. The formation of cystitis glandularis probably explains the presence of mucus in cases of cystitis. The source of the mucus in cystitis has always been a puzzle to me, until I learned of Brun's nests and their transformation, to account for the production of mucus in an organ which had normally no mucus glands. This is the simple explanation of the mucus which is found in almost every cases of cystitis. It also explains the origin of the gelatinous and tubular cancers which occur in the bladder.

A study of the effects of cystitis on the bladder muscle shows that the first effect is a dilatation of the muscle fibers, its walls become stretched, especially the part lying beneath the muscle bundles; these bulge out forming small or large diverticula; hypertrophy of the muscle bundle results in consequence of their being forced to work against pressure, and the necessity for increased use causes them to grow larger like the familiar example of the blacksmith's arm. Whether or not the bladder becomes dilated or hypertrophied depends upon the age and general condition of the patient. In certain old men, where there is not much obstruction, instead of hypertrophy of the muscle fibers, atrophy of the muscle, and back pressure with consequent distention occurs, and the bladder may hold two or three quarts.

The mouths of the ureters are normally closed, but with moderate filling, regurgitation from the bladder takes place, there is distention of the ureters and back pressure upon the pelvis of the kidney. The dangers of a long continuance of a cystitis are manifold. Stone formation frequently occurs; the catarrhal cystitis may become transformed into diphtheritic or phlegmonous, and in the course of time an ascending infection with pyelitis and pyelonephritis is almost certain to occur.

The symptoms of an acute cystitis are sufficiently marked to call attention to the bladder, and they consist in frequent urination, pain, especially at the end of micturition, which may be very intense, to which the name of tenesmus or strangury is given. Pus in the urine is always present, and occasionally hematuria, which is usually terminal, is noted. The acute cases are ushered in with a chill accompanied by a rise of temperature. In the chronic cases, fever is rarely present, and if present, indicates that urosepsis and pyelonephritis are present as a complication.

Chronic Proliferating Cystitis. Capillary blood vessels pushing up mucous membrane and forming small prominences.

In making the diagnosis of cystitis, it is not alone necessary to know that the bladder is inflamed but we should also know whether it is symptomatic or idiopathic in character, for frequency, painful urination and pus in the urine occur in other diseases which are complicated by cystitis; and in order to make our examinations complete, we should ascertain the presence or absence of stone or tumor of the bladder. We should also note whether there is retention and residual urine from stricture or hypertrophy; neighboring organs may be responsible for foci of infection such as salpingitis, colitis, or appendicitis, and of course the kidneys must be investigated to exclude pyelitis and pyelo nephritis.

Before infection and cystitis, it is easy to differentiate many conditions, as without pus, there can be no cystitis. After the diagnosis of an uncomplicated cystitis is established in an acute case, it is very unwise to attempt cystoscopy or any instrumentation of the acutely inflamed bladder. In the chronic or subacute forms, however, the cystoscope is indispensable for determining the character and predisposing cause of the cystitis, and it is almost as essential to determine the organism responsible for the infection. After having made a diagnosis of inflammation of the bladder, it is necessary to find or exclude any contributing cause in order to treat the case along intelligent lines.

In the treatment of a case of acute cystitis, rest in bed is the first essential, keeping the body at an even temperature to avoid a sudden influx of blood upon the inflamed bladder as a result of chilling the surface. A purgative, castor oil or calomel, should be administered to clean out the intestines; hot Sitz baths, fifteen minutes, two or three times a day, add greatly to the patient's comfort, and he should be encouraged to drink freely of diluents such as water, flaxseed tea, etc., for the purpose of diluting the urine and rendering it neutral.

In cases in which tenesmus is severe, opium in the form of suppositories may be necessary. Sandalwood oil combined with kava-kava has a soothing effect. Urotropin is useful to prevent the growth of organisms, but is inactive if the urine is alkaline, and in the presence of alkaline urine, in order to secure any effect, it must be used in conjunction with acid sodium phosphate to render the urine acid. Salol is an efficient urinary antiseptic and may be used with alkaline urine.

Local treatment has always been thought to be inadmissible and bad practice in the early stage until quite recently when it was found, in Vienna, that the instillation of a 5 per cent collargol solution, mixed with an equal part of sterile olive oil, about 10 cc. of the mixture being injected into the bladder, had an excellent effect in allaying the tenesmus, and frequency, and in destroying the bacterial growth. This may be used once a day in acute cystitis with very beneficial effects. The instillation of nitrate of silver (2 to 5 grains) has been known for many years, and sometimes gives good results but has been superseded by the collargol and oil.

The treatment of chronic cystitis must be conducted along entirely different lines. The indications for treatment in these conditions are: (1) to remove the local source of irritation or obstacle to evacuation; (2) to keep the bladder empty; (3) to destroy the micro-organisms or check their growth, and remove the pus and fermentation products by irrigation. These three indications are accomplished by removing the foreign body or obstacle to urination surgically.

The bladder must be kept empty by some form of drainage, either with regular catheterization, or preferably by a permanent catheter tied in the urethra, or occasionally by perineal or suprapubic incision. The third indication is met by washing the bladder with a catheter and syringe, and in this way the pus and fermentation products are removed, and the bladder kept clean and relatively aseptic.

Of all the solutions used for bladder washing, nitrate of silver solutions, 1:4000 is the only one that has stood the test of time, although in exceptional cases, oxycyanate of mercury, 1:4000, seems to be useful in a certain limited number of cases.

32 Schermerhorn St.

The Physical Basis of Nervousness

Uneasiness, Disharmonies in Thinking and Feeling, of Mental and Emotional Conflicts, From Grave Psychopathies to Mere "Whimsies."

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These remarks are in explanation of one phase of common but obscure and difficult situations. A brief restatement is here offered of what these hindering conditions are, the causes which combine to produce them, and helpful hints how to get rid of them. The graphic phenomena consist of over-tensions or stressful states in muscles which strive to compensate other perturbed forces and urge the parts to regain balance or serenity.

That complex distress state vaguely termed "nervousness" is blithely attacked from almost every angle except that of certain disabilities shown in the muscles. Let us see whether this may not oftentimes give a promising key to many clinical situations.

It is my mature opinion that the soil in which grows nervousness, and most of its congeners, obscure miseries, incapacities, foolish conduct and behavior, is a state of protracted over-tension, vibration, "twitter," a continuous to-and-fro movement of the muscles. As these structural anomalies are overcome, so do anxiety distresses become more readily controllable.

Nothing affects so seriously the welfare of mankind as disharmonies between the mind or feelings which control and the body structures which do the work. Nothing helps more than to learn and use effectively methods for dealing with diseases and disabilities called nervous. They are better called psychopathies or auxiety or compulsion psychoneuroses.

The question whether or not the mind can or does exercise dominating influences on the body in disease or recovery is profitable only so far as it lures the searcher to investigate all cognate facts, their sources and directions. Thus one always finds out quite enough incidentally—or on the side—as well as directly, to fully reward. He likewise learns some constants but more variables, about disharmonies. That at least leads to understandings and how to compose or compensate confusions.

Two kinds of instinctive action are recognized: one group is concerned and executed solely within the unconscious—the other self—but of which it is not aware. The second group of instincts represents an inward cellular impulse, an unconscious drive toward, or away from, without any rational motive for the action or apprehension of its aim.

Those who claim that one mind can influence the structures of another by projected suggestion can be believed when they can foretell and influence the determination of sex in the unborn child. There is a crucial test for "absent treatment."

To myself it seems plain that physicians can render their best service by becoming familiar with the more significant facts of nervousness and how to handle their inner self successfully. It is my purpose here to show evidence that we can make a large contribution to the restoration of health by negotiating the more graphic and obstinate physical disharmonies. It is a good deal like holding a restive saddle horse firmly (one's own body) while the rider (the head or mind self) mounts and takes charge.

The origins of life have been traced to the atom—which is demonstrable—and then to the components of the atom or electrons—which is not. They are there right enough but can only be "conceptually inferred."

Each ultimate electron it is admitted, has a self and a will of its own. It is controlled by a higher self or the will of the atom. The united wills of the atoms are controlled by the will of the living cell. Every single cell has a specific existence of its own, with something of will of its own.

A group of characteristic cells constitute a tissue. There the plot of impulsion thickens. The authority becomes divided. Tissues need not only food and fluid but to become and remain in balance. If the cells and the tissues get out of balance the confusion is due to some inadequacy of control of the tissues by some higher and yet higher self, and so on to the highest or composite self or spirit.

Contrariwise: if, or when, this series of selves get out of gear, the shortest cut to restoration of harmony—mobile equilibrium or health—is by balancing the tissues or structures from the outside. To hold the horse well in hand till the top self or rider mounts.

Now, suppose we left the job of controlling this aggregation of materials and forces to the top self alone? It is quite conceivable he might mount and ride unaided in due time and after prodigious battling and exertions and getting pitched off the horse and on his own head a few times. He might then get settled in the saddle and ride.

The muscle disorder is a product in chief part the product of anxiety, of mild dread or excitement long repressed by outside influences, and also self suppressed, through efforts to steady one's self. Thus energy becomes prodigally wasted; the whole organism gets out of balance, ordinary capabilities for clear thinking and useful effort are reduced.

The disturbing influence of over-tension here considered is not so large as to constitute a tonic protective spasm or cramp, and yet is severe enough to cause vague pains or sensory disturbances.

These discomforts or distresses when disregarded—as courageous people take pride in doing—pass out of conscious attention and sink below the threshold, forming a background or substratum of wretchedness and energy degradation.

While no longer candidly expressed they continue to vex, they sap energies and render life less endurable. Quite commonly in the young, and more commonly in mature adults, are found, on deep pressure, areas of tenderness of which muscle soreness is the source. Under aggravating conditions such as over-fatigue, exposure, chill or some disorders of body chemistry, these light up into frank pains in the back, or ribs, or scalp, anywhere among the muscles and their fibrous attachments.

Persistence of pain, whether frank or suppressed so exhausts energies as to render the emotions irritable. Heroic efforts to disregard them helps. Unless the causes are removed balanced forces will be overborne by useless energies expended in trying to balance them and some form of nervousness ensues.

The most economic means of restoring serenity or poise throughout is by eliminating the structural dis-

orders which leaves the spirit free for attending to higher things.

This relief can be readily obtained by the procedures I have so often described and will herein present a combination of induced movements—done upon the body—pressures, kneadings, pushing the muscle fibers back and forth in their long diameters, also firm tapping or impacts over the elastic areas, immediately followed by voluntary movements. Later movements should be by pulling, stretching, traction and turning of parts.

When the volitional structures are relieved and brought under, and trained in habits of masterful self control, most of the disharmonies will then disappear.

The enterprise is one of rightly sizing up the situation, and of clearing away any hindering conditions through training of self determination. Thus are won positions of advatage from which to work. Thereupon energies can again play freely through the well devised instrumentalities of nature.

The great restriction or impediment, arises through "a wrong hitch up" between the psychomotor impulses and the neuromuscular mechanisms. It is their business to cooperate and interplay harmoniously, otherwise the imbalances wrought will constitute an impasse to functional automatisms, and concerted actions. Hence arise diversified confusion states which affect all the pereptors, effectors and adjustors.

In the appraisement of any chronic or long standing disorder, or situation, it is economic of time and results to search for evidences of hyper-tension as described; then focus the patient's attention on these, till the situation is appreciated. Then point out and measure the localities and degrees of hyper-tension; show how confused the self control of his forces is. Then appeal to his motor intelligence to encourage the stressed state to cease. Point out how this can be done, and train the mind in obeying first: outside direction, then self direction, and the paramount value of practicing this as a rule of life.

As a graphic demonstration: I ask the patient to place his ear on my biceps; then I gradually tense all the muscles of my arm. He will then perceive a crescendo of vibrations which rise to the production of a musical note, like an over-strung harp or violin. That shows him his habitual state. It is one of peril too through inducing large energy leaks. All this reacts hurtfully upon the whole organism.

I have devised a sort of ceremonial, or series of procedures to be described. This he and I practice together. Thereafter he can adopt the habit of doing this himself at any time and place. It is particularly well for him to do this just before any special undertaking. This will confer a complete domination of his situation. Thus a mastery is won over whatever efforts are contemplated.

Incidentally the most revealing feature of over-stressed attention is a characteristic attitude of the muscles of the neck: a sort of crouching and raising of the shoulders along with a drop and rigidity of the neck, a strained expression of the face, of the elbows and—if standing or walking—of the knees.

The impulse to search for some elixir of life, some magic remedy for all human ills, some panacea, is a part of human complexes or heritage. This impulse is eminently desirable as a stimulus to research. It is a manifestation of that commendable optimism which keeps the way open to achieve further knowledge of welfare (or bestfare) and sustains creative effort. Perhaps some such boon will become revealed. Till then, however, let us survey and use our known and proven resources.

It is a truism that even the most brilliant of discoveries is merely the sum of forces working that way; converging from myriad directions toward one point, and perceived by one individual equipped with vision and capacity for interpretation, who recognizes and coordinates the revelations into a working proposition. So in the chronic diseases.

I submit my working principle in dealing with the puzzlements and discouragements of chronic disease. Through it can be worked the greatest wonders of healing since it strikes at the foundations of fear, of dread, of anxieties, of doubt, and of discouragement. These hindrances to harmonious interaction impair most, if not all, the regulator mechanisms, the nutrition cells, the endocrine glands, and above all, the ebb and flow of fluids, colloids, cystalloids, and of vegetative and autonomic nerves.

Simple ideas or principles such as those described have been learned, worked out and used from time to time throughout the ages. Also some of them have been lost or forgotten or overshadowed by some picturesque or novel "discovery" more in accord with wishful thoughts or the ever attractive symbolism of mystery or organized religions.

Nature is prodigal of her endowments, also of her margins of safety, of her mechanisms for self adjustment. Man, absorbed in his self sufficiency, in pride of his power to "reason," must needs venture to solve the problems of his own physical and mental disorders and his measurable control over the forces of nature, and too often goes far wide of nature's plain indications.

In his fumblings and findings he is on safer ground when he keeps his attention fixed on the fact that he is first and last an animal, a muscular mechanism, however much he may be animated by the divine fire of thought, of ratiocination. "Be sure you are right, but keep your powder dry," that is, keep your machinery—vitalized mechanisms—in prime condition to discharge their functions and obligations, and they will carry you over most rough places and strange exigencies. "Run your business, don't let your business run you." (B. Franklin.)

Brief of Two Methods for Securing Relaxation, Poise, Tranquillity, Composure, Thorough Release from Over-Tension

One method supplements the other. The first is designed for mere psychic hypertension and deals with problems of the mind or the will. The will to do and not to do. It consists of a series of explanations, suggestions and testings of effects.

The second is a series of induced movements upon hypertonic parts, reflex disorders shown as tonic protective spasticities due to subconscious reactions to irritation. The effects are exhibited as local rigidities, usually also tendernesses on pressure, or on being pushed sidewise, or by stretchings, or on being voluntarily moved, or as changes occur in shape of the affected parts. It is clinically a fibromyositis, also minor and temporary deformation. There may be—usually are—sources of irritation existing in the line of innervation from the corresponding neuromeres. These may be only the after effects which remain when the irritation has ceased.

They are beyond volitional control. Indeed pain is often caused by movement—induced or voluntary or both. Each induces exhaustion through energy leaks, by their excess tonic contractions or vibrations, the incessant push and pull of tremor, or fibrillation or "twitter." Persistences of discomfort not only exhaust but so react upon the depleted nerve centers as to dethrone balance, poise in emotions as well as in ideation or cog-

nition, precipitate gross reactions, hence spoil the disposition. Thus arises temper, peevishness, whimpering, marked nervousness. Or it may be they provoke apprehension, fear of bodily harm or dread of being unable to fulfill their expectation of themselves at a crisis—or a mixture of both.

I will now briefly describe both procedures for regaining poise:

How to Teach the Art of Relaxation, of Balanced Self Control in the Negative Phase

In phrasing I will address myself to the reader as to a patient. The whole procedure occupies about ten minutes.

Lie on your back or recline in an easy chair, preferably with the feet up. Get into a perfectly comfortable attitude or change until at ease throughout. Give close attention to my explanations and requests. Be prepared to agree with me in all things, reserving objections till later. You may ask me any question helpful in understanding or pertinent to what I strive to convey. Cooperate constructively.

It is my aim to secure your undivided attention and cooperation in teaching you to gain just the same conscious control of your muscles in repose, in the negative phase of movement, as when in the active stage.

I assume that you are proficient in all volitional movements. That you can through will power move any of your limbs or your neck or back with exactness. This is only half of your repertoire of capabilities. On the other hand you can and should now shut off all power from these motor parts, of your kinetic (performing) mechanisms, and permit me (or any other) to lift, move about, turn and even drop a limb or push the head to one side or the other unhindered. You must submit to this and make *no* movement or resistence, either to help or to hinder me.

In short, get into the essential condition for sleeping; an entire surrender of impulse to move. At the same time keep your mind awake. Merely be cooperative. Later get up, then if you wish make any objection. We are working together for the same purpose; you must fully realize it is for your good and with your consent. This purpose is not only a laudable but a practicable one.

You have—roughly speaking—six major parts; two arms, two legs, one neck, and one group of inner organs contained in the trunk, the chest, abdomen and pelvis. Each group will be taught their present duty in turn.

There are three kinds of muscles: the voluntary, the semi-voluntary, and the wholly involuntary. Twenty-five percent of body movements are voluntary or semi-voluntary, and seventy-five are involuntary—those of the life performing or vegetative organs and the circulation.

By giving such close attention to the task now being urged you will form habits of self control. These are extremely useful in economizing all energies. They will serve you well when these habits become unconscious, or automatic and help you over many hard places in your life.

I wish to distract a part of the attention you give me and fix it in the rhythm of breathing. All life is a series of rhythms, that is movement at regular intervals. Rhythms are peculiarly restful, as the swaying of a hammock, rocking of a chair, or being "rocked in the cradle of the deep."

Hence I ask you now to breathe a little slower and a little fuller than customary. This is to fix a moderate attention on the semi-voluntary movements of the chest and diaphragm.

Breathe five times. Then I call attention to one arm, and stroke it lengthwise, and tell you this is your arm. You can use it as you will in the active phase. Your present duty is to surrender, to let me do with the part as I wish. I now lift and move your arm about; turn, twist, bend, then lay it down. If you make any effort to help or hinder I can feel the tension. You have then not complied with your promise to yourself. I now lay it down and do you again breathe five times. Then I address the other arm; move it about similarly and drop it down. Again you breathe five times. I stroke one leg and treat it in the same way. Again breathe five times. Then I take the other leg. Then breathe and I address the abdomen and chest muscles, urging you to listen to the slight noises which are often heard in the intestines. These you should know are due to fluctuations in constriction and relaxation. As the constrictions yield, the gases rush through, making a "google-google" sound. This is not normal. There is some irregularity of peristalsis which should be a silent process. Remote as the involuntary muscles are from conscious control, yet by bestowing undivided attention upon these digestive tubes their movements can be made to become more uniform, harmonious, hence effective. Thus the emptying of the bowels can undoubtedly be so trained as to become more regular. Again do you breathe five times.

Finally I address your neck. Now any one so nervously over-tense (mentally in over-tone) plainly shows it by rigid, lifted shoulders, and other features, betraying excess tension in those structures. Many headaches, eye and ear and other distresses, are due —in part—to bad habits of keeping themselves constantly braced up, ready for a jump. Thus leaks occur of good energies better employed otherwise.

Lastly breathe five times. Then I move your head to one side, then to the other, place it in different situations where it is expected to remain. Also I lift the head up and let it gently drop down.

When the cycle is completed—it occupies about eight or ten minutes—I urge that you remain quite still and rehearse my urgings to yourself. Do you repeat confidently you will hereafter retain this capability for complete rest, movelessly, in the negative phase.

Bear in mind this ritual or ceremonial can be done at any time and place. It should be repeated at least once a day—better three or four times, till the habit of reposefulness is formed. Every time it is done the energies surge back to the living engine and strength is renewed in nearly full measure.

Procedures for Releasing States of Muscular Hypertension

Place the patient face down on a couch, head sidewise on a low pillow, the arms beyond the pillow so as to widen the shoulder blades. Thus for you to get at the paravertebral structures.

Explain your purposes which are to learn where areas of rigidity or deformation and tenderness are in the irritated structures. "Feel" the whole back with the inner surfaces of the fingers (not the ends) through the tactile corpuscles. Structural and sensory changes are readily detectable when one is fully

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The Development and Administration of the Public Health Law*

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In 1913 certain organizations and individuals interested in public health work succeeded in impressing upon the Governor and Legislature the fact that the State had outgrown its public health law, enacted in 1893, and the law was generally revised. The revision was based upon recommendations of a commission appointed by Governor Sulzer and the bills amending it were introduced by Senator John Seeley, of Steuben county and Assemblyman Minor McDaniels, of Tompkins both of whom were physicians.

Governor Sulzer, in his message transmitting the report of the commission to the legislature, used these words:

"There is now no well coordinated system of public health administration in this state. Each town, village and city (with a few exceptions which he mentioned) has its own local board of health, which is to all intents and purposes a law unto itself."

He pointed out that, while there were 1400 towns, villages and cities in the state, there were not 1400 different methods of dealing with each health problem, stating, by way of illustration, that a board of health consisting of a town supervisor, justices of the peace and other local authorities was not a body qualified to prescribe the best method of dealing with an epidemic of diphtheria.

He added:

"There are many subjects as to which complete local control and direction are imperative, but in matters of public health the interests of all parts of the state are closely interwoven."

He accurately described some of the conditions and needs as they existed in 1913. The State Department of Health was trying to accomplish something with a small force and appropriation, under a law that had few "teeth" in it. There was no state sanitary code and nearly half of the towns and villages had no local codes; in several the boards of health did not know whether regulations had been adopted or not. The compensation of town and village health officers, mostly under a fee system, averaged $71.96 annually. It varied, among those who received any compensation, from $1.00 to $1,400.00.

Among the important provisions added to the public health law in 1913 were these:

(1) Increase of the term of office of the state commissioner of health from 4 to 6 years;

(2) The establishment of a public health council of seven members including the commissioner of health and six appointed by the governor, empowered to enact a sanitary code effective throughout the state excepting in the city of New York, to prescribe qualifications of local health officers and public health nurses, and to advise the commissioner of health on request on any matters relating to public health. At least three were required to be physicians with training and experience in public health and one a sanitary engineer.

(3) The state commissioner of health was given supervision over the work of local health authorities, outside of New York City, and made responsible for enforcement of the public health law and sanitary code.

(4) Division of the state, excepting cities of the first class, into at least twenty districts with a sanitary supervisor—now district state health officer—in charge of each. There are at present fifteen.

(5) The establishment of a minimum compensation for health officers of ten cents per inhabitant of the municipality in places with population under 8,000 and in those over 8,000, not less than $800.00. In this connection, a bill has recently been introduced, at our request, to increase this minimum to fifteen cents, notwithstanding the fact that some rural boards are still objecting to the ten cent minimum.* In one county, where the board of supervisors not long ago voted down a resolution by one of its rural members to request the legislature to repeal the minimum provision, on the ground that the compensation was excessive, investigation showed that the average annual compensation of the sixteen town health officers in the county was $129.30, or $10.77 per month—not enough to pay for the responsibility assumed by the most inefficient health officer in taking the office.

The year following the revision of the law, Governor Glynn appointed Dr. Herman M. Biggs as commissioner of health and the state health department was completely reorganized. His acceptance of the office at a small salary meant a financial sacrifice but it offered an opportunity to utilize his natural genius for organization in a great public service and at the time of his death his reputation as a sanitarian was international. The organization which he built up and which others are now trying to carry on, with all its admitted defects and mistakes, is to-day pretty generally conceded to be one of the most effective state health organizations in the country.

One of the most important changes in the law,—in the light of subsequent experience,—was that providing for the appointment of a corps of district state medical officers. Most of the appointees have been local men trained in the school of practical experience,—training schools for health workers being a recent development,—and who have demonstrated ability as health administrators in one line or another. In their districts of several counties they represent the commissioner, and make the important contacts with local officials, physicians and the public. Apparently the service which they render is generally appreciated.

In 1913 there were over a thousand local health officers, many of whom got little or no pay and had little interest in or knowledge of modern health work. There were a still larger number of boards of health, many having even less interest and knowledge. In general the office of health officer was not highly regarded either by the incumbents or the public and its acceptance was at times regarded as an admission that the appointee "needed the money,"

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With a view to bringing about the establishment of larger districts, with better health officers, the law has twice been amended: once to permit two or more municipalities to combine into a single "consolidated health district" with its own health officer and a small health board, and again permitting the board of supervisors of a county to establish the county as a health unit, with a board and health officer. Many consolidated districts have been formed. The only county health unit thus far is Cattaraugus, where the Milbank health demonstration is being staged.

The law authorizes the public health council to establish qualifications for local health officers. Insistence upon these qualifications being complied with, wherever practicable, in new appointments, constant stimulation, and education of the public as to what should be expected of a health officer, is very gradually resulting in a noticeable improvement in the type and efficiency of local health officers. The office is assuming a new dignity.

We have been considerably concerned,—as some physicians believe, unnecessarily,—over the inadequacy of medical service in many rural districts. Physicians are dying and moving away and are not being replaced. The lure of the city, with its facilities, the physical hardships of country practice in winter, the fact that the medical colleges are turning out specialists rather than general practitioners, the effect of the automobile, telephone and better road in lessening demand for the services of the local doctor, are all factors. The incontravertible fact is that, in winter, when physicians located at a distance cannot or will not respond, many people in isolated communities suffer from and are endangered by lack of medical attention.

A few years ago, with a view to making the country more attractive to the physician wishing to practice medicine scientifically, raising the standards of rural medical practice and providing hospital and laboratory service, the much discussed "health center bill" was introduced at Dr. Biggs' instigation. It was largely the product of a mind capable, far beyond the ordinary, of looking into the future. While it had the nominal endorsement of many leaders in the medical profession, it rather "staggered the imagination" and probably had little chance of passing. It was actively opposed by the medical profession generally and we are still listening to the echoes of the cry "state medicine" and "socialization of medicine." The martyred bill, however, accomplished a most important purpose in stirring discussion and awakening many physicians to a realization of the fact that medical practice is a public service as well as a private vocation.

When Governor Smith called together representative physicians and health workers for a conference, while there were differences of opinions on some points, there was common agreement as to the need for better rural hospital, public health nursing and laboratory service. The result was the enactment of two amendments to the public health law providing for state financial aid, one to rural counties engaging in certain health activities, the other to counties and municipalities for extension and improvement of laboratory service. Under the former 13 rural counties last year received an aggregate of $26,000, chiefly for newly established nursing service, one small grant having been made toward the establishment of a rural general hospital. Under the other approximately $20,000 was granted as aid to laboratories.

Dr. Biggs was one of the first to realize the practical importance of the laboratory in the movement to protect and promote health. He often said that a laboratory the work of which was not dependable, was a menace rather than an asset to a community and I have several times seen this exemplified.

Prior to 1913 there was no legal provision for supervision and of the limited number of local laboratories some, established and conducted with the best of intentions, were in the "menace" class. The revised law gave the commissioner authority to supervise and advise local laboratories.

Then, as the next step, the sanitary code required physicians to submit specimens for examination in certain communicable diseases to laboratories "approved by the state commissioner of health for such examinations." There has at no time been any prohibition against conducting unapproved laboratories. The burden of legal responsibility has been on the physician, the laboratory being obliged to meet the required standards and secure approval in order to receive his patronage. This method has been indirect and possibly a little unfair to the physician, but reasonably effective. This movement toward higher standards of efficiency has constantly had the support of the medical profession and, in large measure, of the laboratory workers themselves. The greatest difficulty has been in getting the necessary county or municipal appropriations.

The possibility of securing financial aid from the state is serving as a new stimulus. Whereas other laboratories have had only to reach a minimum standard, those receiving state aid are required to maintain a standard considerably higher than the minimum.

By one of the most recent amendments to the law, the commissioner is given authority to set aside any state park or lands as a separate health district, assuming exclusive jurisdiction in matters relating to health. This measure was largely instigated by the Palisades Interstate Park Commission and immediately after its enactment the commissioner assumed jurisdiction over that part of the park located in New York State. A representative was assigned to act as health officer during the summer when it was occupied by thousands of tourists and campers. Previously jurisdiction was divided among the health officers of several towns, parts of which were included in the park.

As with most new laws and regulations, experience in administration of the public health law and state sanitary code has brought out defects and we are frequently confronted by interesting and sometimes difficult legal problems relating to interpretation and application. With all their defects both are said to have already served as models for other states.

In closing it should perhaps be pointed out that while New York City, paying a large proportion of the cost of health administration in the state, receives little benefit directly, indirectly it probably gets its "money's worth," since efficient health work "north of the Bronx" means greater safety for New York City.

* The bill "died in committee."

Discussion

Joseph A. Warren, Esq.: Like Dr. Brooks, I shall confine myself to a discussion of health affairs of New York State alone as my experience has been confined to this State. From the viewpoint of a lawyer I feel that Dr. Brooks has painted too optimistic a picture of the status of the health laws in this

state. He lays emphasis on the State Health Department side of the administration of the law. It has so happened that during the last two administrations the present state law has been made to work very well, better perhaps because of intelligence and education. It continues to exist partly because the people opposed to the law have not had the intelligence to stop it.

The whole theory of the law is that the primary power is in the Health Board. The State is divided into counties and those in turn into towns, villages and cities and each has its health official. Some of them are very good. Sometimes a district of less than 1,000 inhabitants will have a health officer whose pay is very small. In one year the average pay for these health officers was under $50. No man could live on that, and as the health officer is usually a practicing physician he has to keep up his practice in order to live. The day is going to come when no man in this state in public health work will be allowed to engage in private practice. As you all know, there is a difference between private practice and public health work. Such a man cannot earn enough in either to be good in either. There is the temptation to be easier on his own patient who breaks a health law.

Then too the practice of medicine by a health officer interferes with coöperation from other physicians. I believe that a great deal of the reluctance of the country doctor in reporting to the health authorities cases which should be reported is that he does not want a competitor, who represents the State, taking charge of his private patients,—breaking in on his private preserves. Considering the disability under which they are working some of these health officers do remarkable work, but what power does the State Health Commissioner have over these health officers when they do not do good work?

In some cases the health officer is the only doctor in the district and cannot be discharged. Dr. Brooks says they are appointed because of character and personnel. It prescribes general qualifications. There is no doubt in my mind that the provision in the law giving the Public Health Council power is unconstitutional. Even if it were held to be constitutional in many cases the Council is powerless. Time and time again those qualifications have to be disregarded and incompetent officers allowed to continue in office because there was no other physician in the neighborhood.

As Dr. Brooks said, however, the character of the health officers has gradually risen, even in my time. The sanitary supervisors going around the state, advising and encouraging have had something to do with this. They have no other power but they carry reports back to the State Commissioner and they have accomplished a great deal through education and, partly through bluff, since many health officers think the Health Commissioner has more power than he really has.

Thinking over these things has brought me to one conclusion. The State Health Department needs to take one further step. The time has come when the State should declare, as it did in public utilities and education, that public health is a State as distinguished from a local function and should be administered by the State and not the localities.

Dr. Biggs said he felt that small county hospitals scattered throughout the State did not offer the way to handle the problem, and that ten or twelve good modern institutions would be better than sixty struggling ones. The State Health Department should advocate in the whole state the absolute abolition of local health officers and give direct power to the State administration of health.

Dr. Charles S. Prest, Executive Secretary, Queensborough Tuberculosis Association:

I was asked by Dr. Biggs, since I was responsible for this part of the law, to try it and see if it would work. I was associated with him for several years as a sanitary supervisor and it was my privilege to write the law on consolidated health districts.

Without doubt, I believe Dr. Brooks and Mr. Warren have hit the keynote. There must be larger resources for local health administration. I believe Mr. Warren's point is well taken as regards the looseness of the health laws. Many difficulties have arisen from time to time, hard to control. Sickness can be prevented by early active measures.

Dr. John D. Coghlan: Doctor Brooks stated that the State Board of Health did not allow politics to interfere with their work. I this is so, how does he reconcile the statement with the slogan that is going around "It would be as easy to investigate the State Board of Pharmacy in Albany as it would be the Standard oil in Washington?"

The State Board of Pharmacy is the trial, judge, jury, prosecuting and defending attorney, and imposes fines in 99 cases out of 100. What becomes of all this money?

The State Board of Pharmacy is composed of druggists who have drug stores in this and other cities. Why can not these stores be investigated?

Dr. Ernest E. Smith: I might say just a word about one phase of the subject in which I am interested and that is what I would term laboratory practice of medicine as distinguished from clinical practice. Mr. Warren said, referring to the state health officers, that some of them did very efficient work. I think the same statement, with its attached implication, is applicable to the laboratories which have received the approval of the State Board of Health,—that some of them do efficient work.

There are reasons why that apparent limitation of approval or commendation is necessary, and perhaps one reason is because many of the laboratories, by virtue of the approval of the Board of Health to examine for tubercle bacilli and the diphtheria bacillus and do the Widal reaction for typhoid and a few other limited things which are essential in the contagious phases of health work, are expected by the people at large to fill the full function of a laboratory and are called upon to do things for which they are unqualified.

For example, there has come to my attention that a particular laboratory in this State does medico-legal work such as toxocological examinations, things requiring the highest standard of work and qualifications to which the individuals in this particular laboratory cannot at all measure up. These are brought to them and, perhaps not wishing to disappoint the public, or perhaps not to lose the opportunity to do this high class work, they undertake to do it and it is done in a way which does not reflect credit on the science or value of the service rendered. This means that the participants in this work should be limited to what they are qualified to do, possibly a general line of work such as I have indicated, because they do not measure up to the full requirements of more extended laboratory work. One reason for this is that they are not specialists in other lines of laboratory work and would not even be particularly interested in them. They have learned as technicians to do this, that or the other thing but have had no fundamental education for the higher class of work and they are not qualified to exercise judgment or carry out the work properly. They use the work on which they have been trained as a stepping stone, but one can step down as well as up; some of them have even entered the laboratory field only because they have failed in the field of the practice of medicine. That is the second reason.

Another reason for incompetence is because the fees for state examinations are not sufficient to tempt into that work men of the standard required by the character of the work itself. This is an argument in favor of the abolition of the local laboratories and in favor of the establishment of centers where the qualifications will be higher. I have the feeling that every man seriously engaged in laboratory work is injured by poor laboratory work, and I have frequently said that if my competitors do not know how to do a particular thing with which I may happen to be familiar; if they will come to me I will be glad to give them all the information at my disposal for the sake of the work to be accompished. The higher the standard of results accomplished in any line the better it is for all those engaged in such work.

Dr. W. E. Kelly, Middletown, N. Y.: There has been a progressive tendency toward better laboratory work in the State Department. I am associated with the State Hospital at Middletown and when the question formerly came up of sending specimens to the State Department of Health laboratories I felt that the findings reported were not always accurate. But now the status of their work has improved and their reports are accepted without question. In regard to the higher standards that the state department has outlined, it is a fact that in some institutions they have well trained pathologists; in the Poughkeepsie Hospital, for instance, there is a man of over fifteen years training.

The same is true of Gowanda State Hospital and the Kingston city laboratory; these do excellent work. The work done has been progressively improving and I hope in time we can have only trained scientists in their line. I have observed the district Health officers' work and, while they have no positive authority I have found that in Orange and Rockland Counties the Health Officers counted on personality to teach the Doctors to depend on him when they have an epidemic or need help in dealing with communicable diseases.

Dr. Brooks (closing): I had no idea what Mr. Warren would say in his discussion, but it is evident that he has the faculty, which most lawyers have, of being able to argue on either side of a case and I am not surprised at his having taken issue with some of the points I have made. He expresses the opinion that ultimately the state should be given entire control over local health work; while I am inclined to agree with him in a measure, the state health department is not likely to take the initiative in bringing this about.

I agree heartily with what he says about the difficulties arising from physicians who are competing in private practice of

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Longevity and Length of Life

CASPER L. REDFIELD

Chicago

If one plants an acorn, it will grow. That is, it will grow if it is alive, but it will not grow if it is dead. We thus see that it is life within the organism which furnishes the power of growth, and not any particular structure.

We are continually surrounded by and in contact with great varieties of bacteria, some of which are pathogenic, yet they do not harm us. That is, they do not harm us if we are alive, but the instant we die they begin to destroy our bodies. These facts show that it is the life in us that furnishes the power to resist attacks by bacteria, and not any structural form.

It is known that if a person is exahusted he is much more liable to attacks by some disease than when not exhausted. And if attacked, he is more liable to die as a result of the attack if he was previously exhausted than if he was not exhausted when the attack came. Exhaustion is the result of taking from a person a large amount of that thing known to science as "energy." Energy is measured in foot-pounds or some other convenient units, and is taken out of a person by physical exertions of some kind.

It is also known that if a person has become chilled, he is more liable to attack by some disease than if not chilled, and also that if chilled he is more liable to die from a disease than if not previously chilled. The process of chilling is a process of removing heat units from the body, and heat units are simply a form of energy.

The above examples show that it is energy which resists disease and which keeps a person alive. In fact, a person may be killed from no other cause than the removal of energy by excessive physicial exertions, or by long continued chilling. If taking away energy is taking away life, it is not difficult to see that life is a form of energy. The "power" referred to in the earlier examples is simply another name for the "energy" of the later ones.

It happens that taking away energy by physicial exertions is one step in the process of getting more energy into the system, provided the exertions are not of a killing type. We see this in the fact that a man becomes an athlete by the exertions of physical training. To make clear a thing I want to explain later, I will give again a table I have published a number of times before.

TABLE I

Highest Speed of Goldsmith Maid At Different Ages. One Mile.

Eight years old	2:36
Nine years old	2:30
Ten years old	2:24½
Eleven years old	2:22½
Twelve years old	2:19½
Fourteen years old	2:17
Fifteen years old	2:16¾
Sixteen years old	2:16
Seventeen years old	2:14

This case is used because it illustrates the fact that under continuous exercise, powers can continue to develop up to a late age in life. Also, because it illustrates the fact that under continuous exercise powers can be developed far beyond anything that existed in any previous generation, and consequently beyond any possible inheritance. Six times in succession Goldsmith Maid broke the world's record for fast trotting. If she had been trained less strenuously, she would not have gone on to a record of 2:14 at seventeen years of age. If she had been trained more strenuously, she might have gone still faster or she might have been killed. We do not know. What we do know is that the record shows something near the limit of what can be accomplished in the life of a single individual.

From powerful parents we get powerful offspring, and from feeble parents we get feeble offspring. The record shows how a horse may be made more and more powerful as the years go by. If it had been possible for Goldsmith Maid to make the record she did make, and also to have produced a foal each year, would the later foals have inherited greater trotting power than the earlier ones?

Without going into details, I will say that the records show positively that that is the process by which improved trotting power was produced in the trotting breed. Of course, the actual physical development of powers per parent was less strenuous than that illustrated, but the process was the same.

Powers fight off disease and death, powers are developed by exercise, and the powers so developed are inherited. Do the powers acquired by exercise help the animal to live long by fighting off the environmental effects which produce death? And do the progeny of animals which develop powers by exercise inherit qualities which enable them to live longer than they would if their parents had not made such acquirements?

On these points we have some records in the history of horses themselves. A horse ten years of age has passed the meridian of life, and a horse twenty years of age is an old animal. In the history of the trotter we have records of 39 stallions who lived to be 30 or more years of age. These extremely long-lived individuals were all born between 1804 and 1887. During the times when these horses lived, not one stallion in a hundred was raced and trained enough to give him a record of a mile in 2:30. This is because, in those days, it was not the practice to put stallions on the race track. On the mere matter of probabilities, not one of these 39 stallions should be a horse with a race record, or the son of a horse with a race record. As a matter of fact, 18 of them were horses with race records, and 11 of them were sons of horses with race records.

Horses which are trained and raced live longer than their brothers and sisters not trained and raced. And the offspring of horses trained and raced live longer than the offspring of their brothers and sisters not trained and raced. The powers acquired by physicial exertions add to the vital qualities of the animal which makes the acquirement, and this acquired vitality is inherited by offspring and results in increased longevity.

While investigating large families in human beings I noticed two peculiar things. One was that deaths of children in infancy increased as the parents grew older, and the other was that there was increasing length of life among survivors as the parents grew older when the children were born. From these facts, and some related facts, I got the idea that the evolution of longevity through the ages, as well as the evolution of intelligence, was bound up with the ages of the parents when the children were conceived.

To test this matter I collected records of about 200 large families from New England genalogies. To get at the matter which I wished to discover, I took only such families as had four or more adults living past 25 years of age, and I used only such survivors to get a composite family. As families of that size are not common, I had to go to fifteen or twenty genealogies to get the desired number. The result is shown in the accompanying table.

TABLE II

Relative Longevity of Different Children of the Same Fathers. Data from New England Families, by Redfield.

Ages of Fathers at Births of Children	Number of Children	Average age of Children at Death
to 24	83	62.63 years
25 to 29	233	65.20 years
30 to 34	266	65.28 years
35 to 39	199	65.41 years
40 to 44	165	68.02 years
45 to 49	88	66.28 years
50 and over	71	70.27 years
	1105	65.89

After comparing these figures with those for infant mortality, and some others that related to the health of parents, I made the statement that "as long as parents retain their full health and vigor the older they are the longer their children will live, but if parents lose their health or fail in bodily vigor, then the later children will live a less length of time than their earlier children." That statement was made on page 243 of *Control of Heredity*, and was repeated in almost identical language on page 186 of *Dynamic Evolution*.

Alexander Graham Bell made an investigation into the length of life of members of the Hyde Family of America, and he got 2,965 cases from a single genealogy, whereas I had to go fifteen or twenty genealogies to get 1,105 cases. As the results found by Bell have been said to contradict those found by me, we will put the two into a single table for comparison.

TABLE III

Relative Longevity and Length of Life.

Ages of Fathers at Births of Children	Average Age of Children at Death, According to Redfield	Bell
to 24	62.63	39.6
25 to 29	65.20	38.3
30 to 34	65.28	36.8
35 to 39	65.41	34.5
40 to 44	68.02	31.5
45 to 49	66.28	31.4
50 and over	70.27	31.7
	65.89	35.4

There are two noticeable things about this table. One is that I find the children living longer and longer as they come from older and older parents, whereas Bell finds the direct opposite. The other is the great spread between the figures found by Bell and by me. I find the children of my group living 65 years whereas Bell finds those of his group living only 35 years. Now it happens that Bell found a correlation between the lengths of life of parents and children, yet he finds the average age at death of the fathers of those children as 65 years and the corresponding average for the children as 35 years.

This indicates immediately that Bell did not examine the parents and their children on the same basis. The facts are that I was investigating that biological quality known as "longevity," whereas Bell was investigating only the lengths of life elapsing between recorded births and recorded deaths. The two are fundamentally different. Longevity is a matter of vitality, whereas length of life may be determined by any accident, or by some disease.

The parents in Bell's tables were only those persons of their generation who lived beyond maturity, whereas he included among the children those persons who died in infancy. It should be evident that the evolution of a biological quality cannot be determined by investigating successive generations on totally different bases.

Using an entirely different statistical method, Karl Pearson made an investigation which is also said to contradict my results. But Pearson was investigating length of life as determined by the accidents of the environment, and not longevity. That does not interest us here beyond the fact that he got the same kind of results that Bell got. When I showed that infant mortality increased with the age of the parents when the children were born (Dynamic Evolution, page 184), I laid the foundation for showing that Bell and Pearson would get the same results that I got if they had cut out this infant mortality, and I would get the same results that they got if I had included it.

In the *Journal of Heredity* for February, 1925, Professor S. J. Holmes of the University of California has an article on Longevity which is of particular interest here. This investigation is closely parallel to mine, but is directed to a different class of people. My work was directed to the New England pioneers, and their descendants born during the Colonial Period. That of Holmes is directed to the royal families of Europe as they are given in Allstrom's *Dictionary of Royal Lineage*. I have not examined that book, but I assume that Holmes' work contains no flaws of sufficient magnitude to vitiate his results. That is all I claim for my work as I know that absolute accuracy in matters of this kind is out of the question.

I took families of four or more adults and got 1,105 cases. Holmes took families of four or more adults and got 1,030 cases. I excluded all persons dying before 25 years of age as not being "adults" within the meaning used, and Holmes says that he excluded all persons dying before the age of 21 as not being adults. Holmes gives 1,031 cases, but one of them seems to be wrongly included as it represents a person dying before the age of 21. If I had set the dead line at 21 instead of 25, I would have had a few more families, and if Holmes had set the line at 25 instead of 21, he would have had a few less. But these things are not important. The principle is the same in both cases, and the numbers are sufficient to make a good representation. Putting Holmes' results into a table corresponding to Table II, we have the following:

TABLE IV

Relative Longevity of Different Children of the Same Fathers. Data from Royalty, by Holmes.

Ages of Fathers at Births of Children	Number of Children	Average Age of Children at Death
to 24	114	50.2 years
25 to 29	217	53.7 years
30 to 34	225	52.4 years
35 to 39	190	56.2 years
40 to 44	121	52.3 years
45 to 49	79	56.5 years
50 and over	84	51.6 years
	1030	53.5

In *Dynamic Evolution* I published a diagram which represents the final column of Table II. That diagram shows a gradual, but irregular, increase in longevity of children as they come from older and older parents. To get a better view of the present situation we will put into a single diagram (Fig. 1), the figures of the final columns of Tables II and IV.

The striking thing about this diagram is that the lines representing relative longevity for New Englanders and Royalty do not cross each other as might be ex-

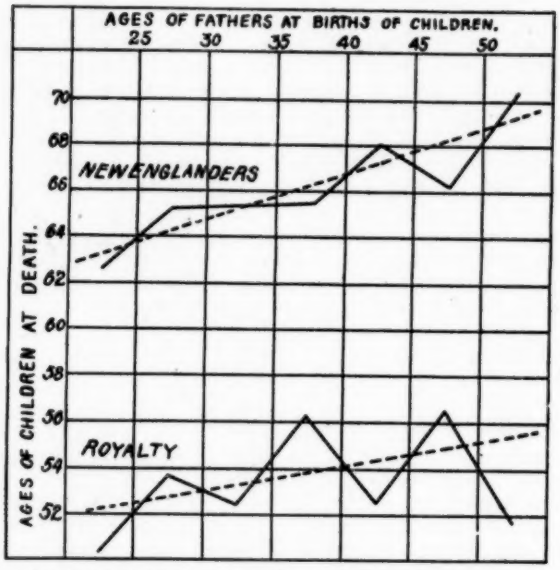


Fig. 1. Relative longevity of different children of the same fathers. The upper line represents New England stock during the Colonial period, and is from data by Redfield. The lower line represents the same thing in royal families, and is from data by Holmes.

pected, but are separated from each other by a great distance. The difference between them averages more than 12 years, and they do not come near each other at any point. Except for the final downward dip at the right of the line for royalty, the lower line has the appearance of being a shortened copy of the upper one. The dotted lines show that while there is an increase in longevity of children as they come from older and older parents, this is much less in royalty than in ordinary people.

There are some other things which throw light on the question of human longevity, and which we need to consider. The average age at death of the persons in my list was 65.89 years. Of these persons, only one was a child of a father as old as 64 years, and only three were children of fathers more than 59 years. While this does not prove that none of the persons in my list was the offspring of a senile father, it does show that such children were very scarce.

In royalty, the average age at death was 53.5 years. Of the 84 persons who are responsible for the downward dip at the right of the lower line, more than half were the children of fathers older than the average age at death in this stock. And nine of these children of exceptionally short lives were offspring of fathers averaging more than 16 years older than the average at death in this stock. These facts indicate that the falling off in longevity of children of oldest parents was caused by including a large number of persons who were the children of senile fathers. For convenience we may say that senility begins in the people of any stock at about the average age at which people in that stock die. This is not true in individual cases, but is generally true. Put in this way, we would say that senility begins in royalty at about the age of 53, and in New England stock at about 65.

With these facts in view, we may now refer back to my original statement to the effect that as long as parents retain their health and vigor, the older they are when their children are born the greater will be the natural longevity of those children. To this I added the statement that a failure in bodily vigor of parents resulted in a loss of longevity of the children subsequently produced.

How did royalty become short-lived stock? I excluded all cases of death by violence or accident, and Holmes says he did the same. Royal families are better protected and have better medical care than do ordinary people, yet the length of their lives is more than 12 years less, and this difference represents relative longevity as nearly as that thing can be determined.

We know very little about the founders of royal families, but what little we do know indicates that they were vigorous and long-lived people. Ptolemy Soter lived to be 84 years of age. Augustus of Rome lived to be 77. Abbas, the uncle of Mohammed and founder of the Abbaside dynasty, lived to be 86. William the Conqueror died of accident at the age of 60; Gustavus Vasa lived to be 64; Rudolph, founder of the Hapsburgs, lived to be 73; and Bernadotte lived to be 80. In his *Comparative Longevity*, page 108, Lancaster states that hereditary princes are shorter lived than sovereigns who rose from lower positions.

Somehow, in some way, royalty has degenerated, and that degeneration has occurred within historical times. It cannot be said that this degeneration is due to the importation of inferior germplasm, because the outside germplasm is not inferior in this respect. Also, there has been no material importation.

We noted before that powers are developed by exercise, and that the powers so acquired are inheritable powers, and are the powers which add to longevity. The opposite of developing powers by exercise is the loss of powers by idleness, as in the case of an athlete who takes up a sedentary life.

The New England settlers had to work hard to earn a living, and such hard work developed their powers and added to the vital qualities of both themselves and their children. Members of royal families do not have to get up at four o'clock in the morning to feed the stock, and do not have to sweat all day in the hay field. If there is any class of people who do not have to exert themselves, it is members of royal families. They are waited on, and relieved from all kinds of physical efforts. Such lack of physical exertions results in loss of physical powers, and the loss of such powers is the loss of the thing which is the essence of longevity. Little by little, as this is repeated generation after generation, the stock degenerates in its longevital qualities. Also, the propagation of royalty is as much as possible through those members of the family which have the least vitality, and not through those which have the most. The royal branches are continued through the eldest surviving son.

Holmes also gives the ages of the mothers of these 1,030 members of royal families, and the relationship of these ages to the longevity of their children. This is set forth in Table V, and is illustrated in Fig. 2.

TABLE V

Relative Longevity of Different Children of the Same Mothers. Data from Royalty, by Holmes.

Ages of Mothers at Births of Children	Number of Children	Average Age of Children at Death
20.....	71	52.00 years
20 to 24.....	265	52.06 years
25 to 29.....	284	54.70 years
30 to 34.....	233	53.60 years
35 to 39.....	140	55.14 years
40 and over.....	37	55.73 years
	1030	53.50

(*Concluded on page* 174)

The Ethics of Laboratory Reports

VICTOR COX PEDERSEN, A.M., M.D., F.A.C.S.,
New York

The frequency and the importance of laboratory investigation in the diagnosis of many simple and all difficult conditions brings in a factor which in the writer's opinion does not seem to be receiving consideration on the part of the profession at large. One may regard all diagnosis as a picture framed in at least four elements: 1. Careful history provided by the patient or his relatives; 2. One or more searching physical examinations; 3. Clinical laboratory investigations of all available specimens with or without *x*-ray examination; and 4. in a frequency far greater than most patients realize, treatment and the results of treatment. In the majority of diagnoses presenting any real difficulty, the fourth or therapeutic portion is the sole finality to a degree which only skillful physicians appreciate.

Out of the last dictum grows another which is beyond all comment or controversy. It was recently expressed to the writer by a prominent internist in these simple words: "After all the laboratory reports are in and other steps of diagnosis taken, one must consider the patient as a whole—namely as a human being who is ill." From this simple epigrammatic thought arises the opinion which the author as a urologist has had and followed for many years concerning laboratory reports as documents in the hands of patients. This opinion is that the service rendered to the patient in any of these difficult decisions is in the last analysis not a written or typewritten report or a photograph or by stretching the point a little further, a specimen; but it is the rounded judgment of the physician or physicians attached to the case and the recommendations for treatment growing out of that judgment.

As a urologist it is a common experience to have reports brought in by patients dealing with any and all possible analyses done from a few days to a few years previously. Sometimes the paper on which the reports were prepared is so old that it is falling apart along the creases. The disadvantage of such a situation from the patent's standpoint is that subconsciously he evolves the impression that the conditions indicated by the report are essentially continuous as the report reads and that therefore on the day of appearance in a specialist's office he necessarily has the same condition as a laboratory may have reported from six to twelve months previously. Oftentimes the reading and rereading of such memoranda by the patient leads to the most undesirable of all mental complexes, namely fear in varying degrees and manifestations. The adage though old is still true in medicine; "The patient who is frightened is already half licked."

In illustration of what these statements indicate is a case of cancer of the bladder was recently presented to the author. He brought with him a half dozen urine reports scattered through about a year of time. Because these papers showed relatively good urine which in this instance he had been brought to realize through frequent rereading by himself and possibly by equally frequent explanation on the part of his physician, the man was in an equally unfortunate mental status as fear would have been, that is to say, a sense of false security. He therefore had great difficulty in realizing the diagnosis proved by the cystoscope—a well-developed cancer in the early necrotic and hemorrhagic state. This means that it was a year too old for the best immediate and ultimate results of surgical intervention.

A number of other specialties much like urology and if sufficient analysis is given to the problem, the whole profession is in the same position, and it is probable that a refusal to give patients the laboratory reports as documents will be of greater service to them than the present procedure. Written reports concerning gastroenterological tests and *x*-ray series, chemistry of the blood, serological investigations of all types, bacteriological findings especially if smears only, pathological data concerning some specimens, and the like all belong not to the patient but to the files of the physician or specialist in charge of the patient and those of the laboratory and—at least in the conservative and matured judgment of the writer. What the patient should have, if required, is a written report by the said physician or specialist which brings into one single diagnosis and as far as possible a prognosis, all the data available, such as have already been laid down as the four essentials of the diagnosis. If treatment has not already been undertaken then of course this particular element is lacking and if such treatment partakes of the nature of an exploratory operation or of the results of antisyphilitic or antituberculous methods (each in appropriate cases) then the written opinion should contain a proper comment on this special part of the diagnosis. In correctly selected cases a brief paragraph should be added covering the point that by and large the opinion is chiefly applicable to the approximate period of the date of the written report.

It seems to the author that this plan will be an offset to the disadvantages which the patient now suffers either through the elements of fear or false sense of security through his natural incapacity to make the reports agree with his clinical status. It will further have the great advantage of permitting the physician or the specialist in control of the patient to create his own report with proper annotations and limitations as a picture in perspective of the patient in conformity with the epigram quoted in the second paragraph of this contribution to the effect that after all the patient as a whole is the real problem.

Another illustrative case will show more emphatically perhaps what the author means. A patient presented himself recently with what he called an internal pile and what his physician thought was an insignificant papilloma with a long pedicle which permitted it to catch occasionally on the sphincter muscle causing spasm, pain and bleeding, but of so simple a character as to invite removal in the office with the diathermic cautery. This diagnosis advanced by the family physician had all the effect on the mind of the patient that a written report would have had based on an examination of the projecting part of the papilloma alone, namely false security. The patient is so convinced of this that he refuses

(Concluded on page 174)

Diet's Aid to Cancer Elimination

HARRISON TAYLOR CRONK, M.D.
New York

This paper is tenth in series on subject of malignancy and its cure. As no reprints are available the reader interested in past papers must requisition them from back files of THE MEDICAL TIMES.

Currency of opinion among best minds in the profession is well expressed by recent utterance from highest quarter plainly pointing to concentration of thought as to cause and cure of cancer.

Thinking authority is always plastic. Only dead minds—without originality—revere the ancestral tombs of dead idea.

Malignancy is due to a specific animal parasite which is protozooic, not bacterial. The cure of malignancy rests upon destruction of that parasite by a circulating medication, so potent in its parasiticidal effect as to kill the exciting animal cause with same efficiency as mercurial ointment kills the pubic louse or kerosene, pediculus capitis.

Nothing in a century has been more important on the subject discussed than the straight-shooting words of Francis Carter Wood, M.D., Director of the Institute of Cancer Research of Columbia University, at the recent annual meet of the American Medical Association at Atlantic City, N. J.

It will be understood by the reader that these prefatory remarks to the following article do not include any sanction of the author's practical treatment for malignancy.

They do, however, indirectly but most forcibly, sanction thought opposed to that which has held medical opinion enhanced by were-wolf superstitions of Germanic origin such as the Cohnheim legend of cancer's origin so well illustrates.

In past papers it has been established that three factors are causative of cancer's origin and progress to death of the host malignancy invades.

These factors are a germ (a protozoon); a point of vulnerability upon which the germ can seat itself and multiply—this caused by repeated irritation or a single violence; and a character of soilage without which combination of the former two cannot become effective.

Modern tendency in some quarters has been to lay too much stress upon any one of these three factors. In successful attack upon cancer, all three must be kept in view. From a purely preventive standpoint the soilage factor may well stand foremost but since humanity and the profession in our present age, face cancer only upon its known existence and at a time when fixation is secure and life is actually threatened, we had best consider the dietary factor from a therapeutic rather than preventive standpoint.

Cancer being existent in a given case we must fight it with the only two sensible weapons at hand; one is corrective eating, the other the employment of that injective combination described in previous papers under the arbitrary designation, A-O.

If anything seems assured it is that disease development, especially apparent in later years, including intection and epidemic disease, has its basis upon physical vulnerability created by faulty living. An attack of pneumonia strikes quickly and fatally. Malignancy attacks more insidiously but quite as fatally. The degenerative diseases such as diabetes, nephritis and heart disease, having no exciting germ cause pursue even slower course and like the rusting of iron or the rotting of wood, imperceptibly but infallibly eat away life tenure over periods of twenty years or more extension.

It is the same "rusting of iron or rotting of wood" process which we have to deal with in cancer soilage as with those other diseases mentioned, so what is here said is applicable to all. True life extension has correct eating at its foundation.

That soilage which makes cancer seatment a possibility is invariably one created by acidosis. Inclination has been to consider that term acidosis more particularly in connection with acute conditions, this so because acute conditions are more startling.

In olden days we knew little about acidosis. Scurvy was so prevalent among sea-faring people that it was commonplace. Remedy being empirically found by supplying abundance of fruit juices atop the salt-horse and wormy biscuit ration of the long old sailing days; prevention and cure were in some part established. So much was this so that the name "lime-juicer" became part of naval vernacular.

Beri-beri became the popular later name for disease of scurvy foundation. Acuteness of outbreak caught popular imagination, and new thought was given the subject as impoverished diets caused it in Labrador, Japan, the Phillippines and more latterly upon that German war raider which was forced to interne at Newport News during the recent war.

The same conditions of acidosis are at work in our every-day lives and are creative of those soilage conditions which are our subject; as caused scurvy in the old days and the beri-beri of more recent times is understood.

We all eat wrong, know it, and keep on eating wrong until the sharp jerk of existing disease brings us to our proper senses. Since it is so easy to "lock the barn door before the horse is stolen" let us understand the why of it and so proceed. If we start late, awakened by cancer presence, so much the worse for us. The course is the same, however, whether disease is seated or whether we anticipate and defeat its ever-threatening presence.

* * * * *

Almost every article of daily diet has an excess of either acid or basic substance. As the word alkaline is more understandable than "basic" we will use that word by preference.

Dr. Charles W. Green, whose breadth of food study has made him an accepted authority on foods in their relation to health, has made classification in an understandable way, which keys the subject.

Meat, fish, eggs and cereals are acid. (Tea, coffee, chocolate and cereal drinks are likewise acid.)

Fruit, vegetables and milk are alkaline.

The conditions of acidosis so usual and almost so universal in later life are the result of diet exceeding in acid-forming foods. To reform one's condition, one need merely to deplete existent acid condition by diet as closely restricted to foods of alkaline preponderance as appetite and digestive comfort will tolerate.

Invariably, under processes of body chemistry, there will result from such a course a diminution of acidity and plodding pursuit of proper diet must result in improved physical condition and co-related resistance to disease inroad.

Alkalinity is life. Acidity is death. Mentally weighing the foods as listed in the above indenture, with your own daily intake and for general purpose of safety balance, considering twice the bulk of fruit and vegetables as necessary to your intake of fish, meat or eggs; and decision will be that you are an acid eater.

This is quite true with most of us, even though we do manage to exist in apparent health. All of us need correction in diet, and the cancer patient most of all. The commonest error we fall into, however, is our proneness to class cereals with vegetables. Although cereals are only slightly acid (not comparably so with meat, fish and eggs) they are none-the-less acid and in no sense can supplant alkaline fruit and vegetables in the dietary. Vegetarians too often stub their toe over just that confusion.

To restrict the cancer patient to a regimen disturbing to mental poise is bad indeed, yet choice is so bread as between the acid and alkaline food lists no reason exists why a preponderance of alkalinity cannot be easily established in conformity with patient taste and happiness.

That last must have fullest consideration. Others like myself have noted disposition in advanced cancer cases towards an almost suicidal slant as far as appetite is concerned. There is actually a "cancer psychology" in this regard.

There need be no fear of creating any harmful condition of alkalinity in the system through too much alkaline ingestion. It is well proven that body processes take care of that with automatic precision.

The patient must be instructed at start that taste is no index of acid-alkaline balance, for if taste was a guide we would find him shunning tomatoes, grapefruit, oranges and lemons because they "taste" acid, when in fact under body transformation they produce the best of bi-carbonates.

It is well here to add a word about medical proprietaries. Organic bases as derived from food must always have precedence in intelligent favor over inorganic compounds however colloidal their form. I have no quarrel with them and esteem some. But when one reads in proprietary literature that it is doubtful if enough of some mineral elements can be absorbed from natural food containing them and that, ergo, one must take them in pill or liquid form in order to be supplied; I feel that either proprietary medical writers are dementia praecox or else believe the profession they address to be in the same category.

The body is continually taking in and throwing off its phosphorus, calcium, iron and other necessary elements. Food is our only source of supply. By selecting foods wisely, always with consideration of alkaline preponderancy we can fortify against all disease and improvement in cancer cases under proper regimen provides glowing example.

* * * * *

Since gastric malignancy enters so largely into cancer mortality, it will be well to review in these papers "the reason why."

No discussion need be entered upon as to the sensitiveness of that human churn which is innocent receptacle of whatever its host's deformed appetite may dictate. Nor need we expatiate about tenderness of its mucus lining.

Correctly premising cancer's existence as due to the triple incidence of a fertile soil, an irritated spot upon that soil, and the activity of certain blood-lusting protozoa identified in previous papers as Trichomonas; we may now confine our thought to the irritative factor as concerns stomach location of malignancy. Common example best leads us to simpler understanding of the subject.

In stomatitis we have similar but more visible illustration of this irritative factor. The canker sores of childhood are similar in expression to ulcer of the stomach. With the mucus surfaces in the mouth, however, continual irritation does not exist because as a rule food is more often bolted than chewed thoroughly and the friction of contact is comparatively slight.

But when a similarly ulcered condition exists upon the stomach's mucused surface, there occurs under the churning motion necessary to gastric digestion, an irritation which can only be relieved by rest.

One can see at a glance, therefore, the mechanics of the situation and deduct therefrom the necessity of rest as a tremendous aid to cure.

Quality, quantity, character of food ingested all play their part. Wisdom tells us that since some gastric secretions would be immensely more irritative upon ulcered surface, than the alkaline secretions of the mouth would be upon an ordinary canker sore; restriction of diet to food forms less exciting to stomach function than the intestinal function, would be most in order.

Commonsense has long dictated in treatment of ulcered conditions of the stomach that these factors of quality, quantity and character of food injected be gauged upon knowledge of human physiology.

Ulcer of the stomach is undeniably and unqualifiedly preliminary stage to cancer's presence. Bear in mind what I continually endeavor to imprint. Irritation upon proper soilage permitting seatment of the protozoa which causes cancer, forms the God-head of the disease which has no long baffled medical thought.

Ulcerous condition of the stomach, unrecognized and unattended to in curative direction performs the same service towards cancer location as is afforded by the continual irritation of nose glasses or a heated pipestem. The more closely we look at things in light of this Trinity of cause and the more we consider the importance of each contributing factor, the more do we reach in direction of banishment of malignancy. The subject under light of intelligent reason, becomes less fearsome.

12 Fifth Avenue.

Endocrine Instability in Relation to the Rheumatic Child

J. Llewellyn of London believes the apparently disconnected elements constituting the rheumatism of childhood seem highly suggestive of some inborn state of endocrine and autonomous imbalance. He uses the term imbalance advisedly, for, imbalance connotes instability. Instability in the endocrine sphere implies neither hyperfunction nor hypofunction, but an alternation or mingling of the two states—with correlated variations in the sympathetic system in the direction of excitation or depression.

Thus, in common with others, we have met with evidences of hypothyroidism, e. g., solid edema, as well as of hyperthyroidism in Graves's syndrome. Indeed, as we know, the cardinal symptoms of Graves's disease may persist despite the development of myxedema through thyroid exhaustion. Recognition of this fact, viz., that signs of hypersecretion may coexist with those of hyposecretion, will, help us to unravel the tangled skein presented by the phenomena of rheumatism in childhood.—*N. Y. Med. Jour.*, May 20, 1925.)

The Necessity for Examination

In the realm of pediatric practice it seems almost reckless to attempt to assume professional charge of a child without properly examining the throat, ear, and nasal cavities of the patient. So many hidden secrets are revealed by these simple examinations that one cannot afford to neglect them in a single case.—(*Medical Clinics, North America.*)

A Case of Tabo-Paresis Treated With Tertian Malaria *

M. NEUSTAEDTER, M.D., PH.D.,
New York

D. L., male, aet. 38, married, a bank clerk by occupation, was referred to me by his physician March 5, 1919. He complained that for the last nine months he suffered from a left ocular ptosis and a diplopia lasting four days at a time, at intervals of from six to ten days. For the last four weeks he was impotent.

He denied a luetic infection, but admitted that the blood Wassermann was 4+ a year ago and that his wife was pregnant only once and aborted. Otherwise, he stated, he was always perfectly well.

On physical examination there was anisocoria, the right pupil was larger than the left, Argyll-Robertson in type; the fundi oculi showed a partial optic atrophy and there was a concentric diminution of his visual fields. The only reflexes that were absent were the patellars and achilles. There was no Romberg; the finger-nose and heel-knee tests were normally executed; bone conduction was good all over, no hypotonus and no loss of deep muscular sense, but there was a marked hypalgesia in the lower extremities and delayed sensation. There was a complete left ocular ptosis and a paresis of the left sixth. All other cranial nerves were unaffected, the thoracic and abdominal viscera were normal. His blood Wassermann was 4+. My diagnosis was tabes.

He received a course of anti-luetic treatment, consisting of 12 injections of neosalvarsan in weekly intervals, a total of 6.9 gm. and K1 1.3 gm. t. i. d. After the first four injections the ptosis and diplopia improved and his Wassermann became negative after the sixth injection. He was averse to intramuscular injections of mercury, so he took KI and protoiodid of mercury internally for a few months, gained in weight and, finding his ptosis and diplopia gone and generally improved, he discontinued medication.

March 4, 1921, two years later, he appeared again with a marked left ptosis and diplopia complaining also of severe occipital headaches especially toward evening.

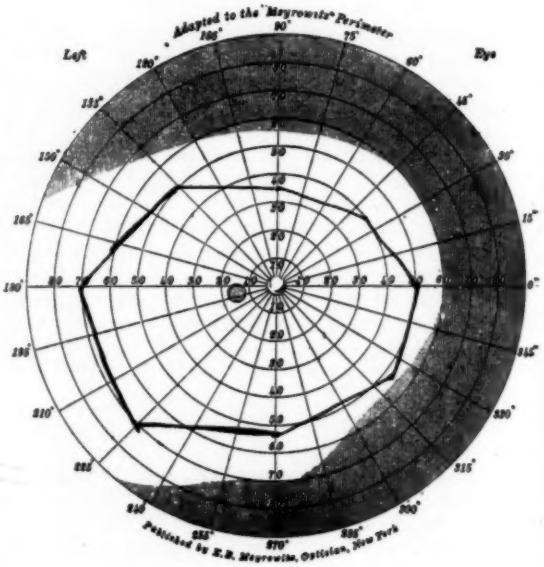
The physical findings were the same as before with the addition of the absence of the cremaster reflex on both sides, a paralysis of the left fourth, defective hearing on both sides and a loss of bone conduction over the left mastoid, some atrophy of the left frontalis muscle and a hyperesthesia of the left ophthalmic brach of the fifth; blood Wassermann was then 4+.

He has again received 12 injections of neosalvarsan, a total amount of 8.7 gm. At the end of this series of injections the ptosis and diplopia completely receded and his Wassermann went down to ±. He then continued the KI and protoiodid for some months, dropping the medication when his condition seemed fair and taking to it again when he seemed to be "out of sorts." During all these years he continued uninterruptedly at his vocation.

In May, 1922 he was run over by an automobile and rendered unconscious for 3 days and dazed for 10 days more. By the end of June he fully recovered and returned to work. In November he was discharged because of some mistakes and irregularities in his work.

December 7 he came to see me. His wife complained that he is extremely nervous and irritable, quarrelsome and insulting, that his personality was altered and that he was not the same man. His memory was much affected, his speech was altered, the writing became poor and the hands trembled. He was suffering from insomnia, poor appetite and considerable loss of weight.

Physically there was no ptosis but in addition to the signs enumerated above there appeared now a slight Romberg, a marked dysarthria and an intention tremor in hands, lips and tongue. His concentration memory was poor, he could not compute 7x19, giving the result as 146 and after much figuring 133 and was unable to repeat a number of 8 digits.



Silver salvarsan therapy was now instituted and he received 2.1 gm. in 12 injections, KI and complete rest. After an interval of six months silver salvarsan was again given and continued in that manner until October, 1924. Protoiodid of mercury was added to the KI throughout. He improved sufficiently to resume his work in December, 1923 and worked for five months when he was again discharged because of mistakes in the bank.

This time he began to slide down rather rapidly, developing delusions of grandeur. He became provoking and threatening when disagreed with, exhibited frequent lack of orientation as to time and place, was alternately depressed and exaulted and his dysarthria became again marked, in spite of complete rest and intensive treatment. His blood Wassermann was negative.

Having now decided to try the Wagner-Jauregg method of treatment I have procured from Dr. Kirby 2 cc. of blood from a patient infected with tertian

* Presented before the New York Academy of Medicine, Section Neurology. May 12, 1925.

malaria and injected the amount intramuscularly October 20, 1924. He had the first chill October 31 with a temp. of 101°, the second November 2, temp. 104° and then every other day an hour earlier than the previous one, the temperature going up at times to 106°, profusely perspiring after each seasure.

After the third chill he developed herpes labialis. During the two weeks he looked very sick, losing considerable weight. His blood showed the typical plasmodia, there were 11,000 white blood cells and 4,600,000 reds, 70% hemoglobin, 53% polys, 21% small monos, 18% large monos and 8% transitionals, counting 103 cells. This blood picture did not deviate materially through the entire course.

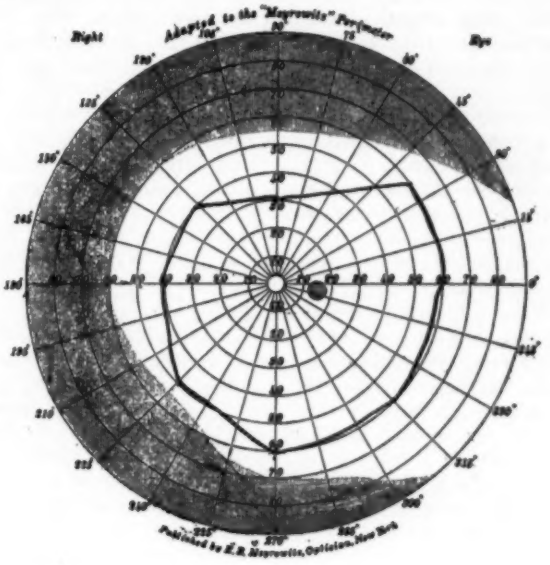
After six good chills with high temperature he received quinine 10 gr. t. i. d. for two days and the chills promptly stopped. I then began with silver salvarsan in doses of 0.2 gm. and at the end of the 12 injections continued with intramuscular injections of bismudol. KI was given throughout excepting during the chills and from the time of the blood injection.

He began to improve mentally two months after the infection. His blood Wassermann remained neg. December 14 a lumbar puncture showed the fluid clear and not under pressure; there was no increase in cells, globulin +, Wassermann 4+, Lange paretic curve.

He continued to improve mentally and physically; the dysarthria fairly disappeared, the tremor left entirely and the handwriting became nearly as good as in 1921. By February 19, 1925 he regained his weight and in addition 5¾ lb.

December 26, 1924, he returned to his former occupation in a bank. He did quite well for three weeks but was discharged. I have personaly inquired about the cause and was told that no fault was found with his work, but they feared that he could not endure the long hours, from 9 a.m. to 9 p.m. Since then he has not been able to obtain employment.

He was quite actively trying to obtain work, arose early to scan the papers for and answer advertisements. To all intents and purposes he continued active and apparently normal until a few weeks ago, when he again became depressed and apathetic. He now rises at 11 a.m. to look at the papers and it takes him two days to compose an application for a position. He confabulates considerably. While working he was happy, but now seems to slide down again.



Conclusion

There is no doubt that there was an improvement in his mentality after the infection with tertian malaria.

Whether or not the present regression is due to worry on account of lack of occupation or to his condition is difficult to say.

27 E. 93d St.

The Physical Basis of Nervousness

(Concluded from page 162)

familiar with the normal variations in resistence and sensitiveness of different parts.

When abnormal resistence is perceived press firmly down with open palm, move it about, knead the deeper structures. Then tap firmly twenty or thirty times to the minute over the dense areas. Later strike these parts with the outer sides of the open hand. "Biotic energy to be effective must often be abrupt." (Sherrington). Then tell the patient to bring both hands, palms down, under the shoulders, raise the head, throw it back and look up at the ceiling. Repeat two or three times. Then again knead the back structures, repeat the blows or vibrations on the dense areas and again urge the patient to look up at the ceiling two or three times.

In a short time these hypertension abnormalities will become released and disappear. The whole back will become more pliant, more capable of free action and control. Should there be rigid muscles in the limbs or chest walls treat them the same way by impacts and voluntary movements. Done twice or thrice a week soon the obstructions will quite disappear. As pliancy grows so will courage and vigor and self confidence enhance. The patient should perform daily, two or three times, the backward bending, also side bending. Thus:

Standing two feet from the wall, place the hands against this and thrust the head far back and alternately to each side. Soon the entire body becomes more flexible and obedient to the will. Then urge free movements of various sorts, as with a golf club, swingings and strokes.

NOTE:—This generalized poise thus secured forms favorable or receptive states for any over remediation; a soil for new resolves and proficiencies to grow and fructify.

The Three B's

As a general rule we may recall the ancient tip that morphia is to be avoided in the "Three B's"—Bright's Disease, bronchitis, and babies.

In young children it is generally better not to employ poultices to the front of the chest, owing to the softness of the ribs. A light jacket of cotton wool may me used instead. The chest being well rubbed with a liniment of turpentine and acetic acid of half the strength of the official preparation.

Children are very easily depressed by acute diseases, therefore, alcoholic stimulants take a high place among internal remedies and a few doses of port wine or brandy will often, in a few hours, completely alter the aspect of a case and turn the scale in favor of recovery,—(*Dr. Eustace Smith.*)

The Ethics of Laboratory Reports

(Concluded from page 169)

to remain a few days in a hospital so as to permit a proper removal of the growth not across the pedicle but widely through the base which is definitely infiltrated, indicating beyond reasonable doubt that the growth is an early cancer. The finger of the author detected this infiltration and suitable warning has been given. Nevertheless the refusal of the patient has thus far been continued. If now someone removes this growth across the pedicle and a laboratory report is incidentally favorable and is given to the patient he will in a sense swing it above his head in the spirit of a boy whose school team has won a game. With nothing but crass ignorance as to the difference between the early and benign part of the papilloma and the later or malignant development at the base the unfortunate man will be led into the conviction that the conservative judgment of the writer was a dishonorable attempt on his bodily and financial interests.

For a number of years the author has been guided strictly by the principles laid down in this brief communication. He is yet to find any objection to them which in any condition or relation of the cases whatever in any sense equals the difficulties of the plan which seems to be one of the real mistakes in the modern practice of medicine concerned in the management of the patients in their relation with laboratory reports. It will be interesting to receive communications from the profession at large concerning these propositions.

45 West 9th St.

Longevity and Length of Life

(Concluded from page 168)

Here we see that the longevity of the children increases as the mothers grow older, without any falling off at the later ages of mothers. Yet the persons represented in

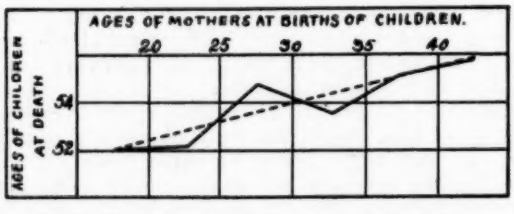


Fig. 2. Relative longevity of different children of the same mothers. The data are from royal families, and were furnished by Holmes.

Fig. 2 are the same persons represented in the lower line of Fig. 1. This is explained by the fact that the senile fathers responsible for the downward dip at the last end of the lower line of Fig. 1 had relatively young wives, all of them being less than 40 years of age. Mothers in the child-bearing stage of life are not senile, and all of those in the table over 40 years of age had husbands of less age than that dead line which represents the average age at death in this stock.

Aged male members of royalty married comparatively young women and got short-lived children, but senility in fathers does not account for the relatively short lives of the children of mothers less than 25 years of age. Of the 336 children born to such mothers, only nine were the offspring of fathers older than 55 years of age. The relative short lives of these 336 persons must be ascribed to their lack of vitality, and this in turn to the comparative youthfulness of their mothers and not to the senility of their fathers.

Monadnock Blk.

The Volstead Law

A communication in the *New York Times* of May 27, 1925, by Dr. G. W. Murdock is worthy of reproduction: "An astonishing report," was rendered a little time ago by the estimable Mr. Haynes upon the activities of the prohibition officers in the city of Washington during the past year. By this, the arrests for drunkenness and for violation of the Volstead law ran well into the thousands. As showing his own efficiency in the enforcement of an unpopular law it was satisfactory, but when he advances it as evidence of the success of prohibition he seems lacking in a sense of humor.

"The recent discharge of a doorkeeper in the Capitol at Washington on charges of acting as a bootlegger to our lawmakers is also interesting, and I have heard comments upon it by foreigners that were not flattering. In considering the results of prohibition up to date it is well to compare our country with others occasionally.

"I have just returned from a stay of some months in Lisbon and in Funchal. In both cities wine is plenty, good, cheap, sold everywhere and drunk by nearly everybody. Hard liquor is on sale also, with certain restrictions, but is not used much except by Americans and English. In all that time only two cases of intoxication came under my observation; one, very mild, of a Portuguese soldier; the other, an American on shore from an excursion steamer calling at Maderia. He was so disorderly that the police locked him up until the steamer was ready to sail and then put him on board. It is a matter of common observation now that Americans when abroad not only drink more than other people, but much more than formerly. They seem to think it important not to neglect their opportunities.

"What proportion of the vast number of tourists now going abroad every year do so to get away from prohibition for a few weeks or months I cannot say, but I am sure that it is not a small one. I have discussed this subject with many men while abroad, chiefly with Englishmen. Of these, all were in favor of government control, but only one believed in strict prohibition.

"In the determination to make this country as dry as the Sahara, prohibitionists have talked a great deal of nonsense about the sacred duty of every citizen to put infractions of the Volstead act upon the same plane as highway robbery or murder. No homilies from the pulpit or fulminations from the bench will ever make the man in the street do this. Robbery and the like have been recognized as crimes against society since the beginning of civilization, while the Volstead act makes a crime by law out of a perfectly innocent action.

"The Ten Commandments constitute the oldest, and in some ways the most important, code of laws ever given to man. Theoretically, each one is as forcible as any other; yet what living person attaches the same importance to the command against coveting as to those against theft or murder? We have now, for almost six years, tried to enforce prohibition. Every year the demand is for more men, more money, more guns, more laws, until it appears to the ordinary man as if all other crimes were trivial compared to violations of that precious Volstead act. Now we are told that high rewards are offered to informers. This is a step which other governments have always been wary of, from the opportunities afforded for blackmail and the gratification of private spite. However, if we can change the Constitution of the United States to carry out this policy, I suppose we must not mind little things like these.

Rheumatic Fever

Rheumatic fever is just as contagious in young children as tuberculosis.

In the presence of an endocarditis in a child one can always find the history that some one else in that house had rheumatic fever, or its direct descendant (i. e., mitral disease), whether it be the parent, nurse, or old grandmother, who fondles the child.—(*Medical Clinics, North America.*)

The Physician's Library

Practical Therapeutics. By Hobart Amory Hare, M.D., Professor of Therapeutics, Materia Medica, and Diagnosis in the Jefferson Medical College, Philadelphia. 1061 pages, 19th edition. Philadelphia and New York: Lea & Febiger, 1925.

It is like meeting an old friend again to greet the 19th edition of this book. It seems to the writer that all his professional life he has been reviewing this outstanding work on therapeutics. It is not unlikely that the first edition was published before he appeared in the field as a practitioner. That the new editon is up to date is indicated by the fact that the author recognizes sulpharsphenamine as worthy of acceptation in the place of arsphenamine, and that he insists that insulin is a power for good, when used properly, but is harmful when used wrongly. He again brings out the point regarding iodin. According to modern teaching this drug is of value in goiter and exophthalmic goiter, although it was formerly believed to be contraindicated in the latter condition.

He also notes, however, that when given in exophthalmic goiter it must be used continuously, less the patient relapse and become worse. We are constantly changing our ideas as to the curative value of drugs and every point in connection therewith has been indicated in this edition.

It is difficult to see how the physician can keep house without this book, and the fact that it has gone through so many editions would indicate that most medical men regard it as an indispensable part of their armamentarium.

Modern Urology. Edited by Hugh Cabot, M.D., Dean of the Medical School of the University of Michigan. Two volumes. Philadelphia and New York; Lea & Febiger, 1924.

This complete and standard work is the result of the efforts of the leading urologists of America. Volume 1 has seventeen contributors, and volume 2 has thirteen, all of them outstanding figures in the world of urology.

Volume 1 contains 828 pages and is devoted to cystoscopic and other diagnostic measures, as well as the various diseases of the penis and urethra, scrotum and testicle, prostate and seminal vesicles.

Volume 2 is devoted entirely to diseases of the bladder, the urethra and the kidneys. It is quite out of the range of possibility in a brief review like this to even attempt to pick out the high spots in such a work. Suffice it to say these two volumes form the leading treatise on the subject in the world's literature. While they have been intended for the specialist the articles contained therein are equally valuable for any physician who treats urological conditions.

The publisher has outdone himself in presenting this subject. We have not seen a better example of typographical art in a long time.

An African Holiday. By Richard L. Sutton, M.D., St. Louis: C. V. Mosby Co., 1925.

It is not given to all physicians to be in one, a great dermatologist, a pleasing writer and a hunter of big game. Such a combination we find in the versatile author of this fascinating tale of months spent in the African wilds. He is one of the best known and most competent dermatologists in the country and as a writer of textbooks or hunting stories. Dr. Sutton has no superior.

The physician who reads this work will forget his troubles and is likely to be admonished by his faithful spouse not less than twenty times to "put out the light and come to bed." He will deliberately disobey his lady and mistress, however, until he has finished page 180, which is the end.

Fractures and Dislocations. By Philip D. Wilson, M.D., F. A. C. S. of Harvard Medical School and William A. Cochrane, F. R. C. S. Edin. of the University of Edinburgh. 789 pages. Philadelphia and London: J. B. Lippincott Co., 1925.

This hands across the sea combination of surgeons has produced a masterpiece. They confine their efforts to immediate management, after care and convalescent treatment, into particular emphasis land upon conservative and restoration of function.

In short they have taken the very milk of the cocoanut and by means of graphically written text and with nearly a thousand illustrations, have presented us with a work of intense interest and the greasest practical value.

It is — but why try to crowd in a real review in limited space. Read the book. It's quite worth while.

Operative Surgery. By J. Shelton Horsley, M.D., F.A.C.S. of Richmond. 784 pages. St. Louis: C. V. Mosby Co., 1925.

Interest attaches to this second edition for it contains descriptions of unpublished operations by such master surgeons as Evarts A. Graham, Frazier, Coffey, Stookey, Finney, and Kerr. Other operations and novelifications, which are new, are also found in the pages.

The authors idea in presenting this work is to emphasize the preservation of physiologic function, as well as to interpret the tiologic processes that follow operative procedure.

It is the consensus of surgeons that Horsley has succeeded admirably in his purpose.

The Diagnosis of Children's Diseases. By Prof. Dr. E. Feer of Zurich. Translated by Carl A. Sherer, M. D. F. A. C. P. 551 pages. Philadelphia, London and Montreal; J. B. Lippincott Co., 1925.

The fine points of diagnosis is the raison d'etre for this work. The author has taken up those methods which many of authors have overlooked and around them has woven his story. He wastes no time in small talk, but gets down to the meat and sticks to his knitting work.

No attempts is made to suggest treatment, but every avenue leading to diagnosis is covered.

He believes in laboratory aids, but he also is converted to the idea that our powers of observation were given us to use and he uses them.

His work is different from other works or pediatrics. We are not unduly praising Feer when we say that he has touched the right chord. The volume rings true.

The Practice of Gynecology. By Henry Jellett, M.D. of New Zealand. 5th edition, 744 pages, 417 illustrations. Philadelphia: Lea & Febiger, 1925.

The author has taken the opportunity in the revision of his already excellent book to thoroughly revise the previous edition and has added several new subjects, such as, Ovarian Transplantation, Gas Inflation of the Peritoneal Cavity and of the Fallopian Tubes, etc. The chapters on Menstruation and its Disorders, Endometritis, and Metritis, have been brought entirely up to date. These are only a few of the additions which have been made to the work.

Dr. Jellett is a widely known gynecologist, who was formerly professor of midwifery in the University of Dublin. He is now one of the faculty of the University of New Zealand. His large experience with the women of Ireland, and of New Zealand has given him an unusually broad viewpoint, and as a result he has produced a book of unusual merit. Incidentally, this volume has been very handsomely printed.

Medical Education. By Abraham Flexner, 334 pages, The MacMillan Company, 1925.

This is an important study of European and American education and goes rather deeply into the subject. The various types of medical schools are discussed together with the basic sciences, the curriculum in Europe and America, the laboratory sciences, clinics and institutes for medical research. Mr. Flexner has arrived at some very interesting conclusions and his entire subject matter is presented in a most entertaining and instructive manner.

Diseases of the Rectum. By Martin L. Bodkin, M.D. of Brooklyn, 487 pages; second edition, New York; E. B. Treat & Company, 1925.

This edition is better than its predecessor in that the author has had the opportunity to regard his first work critically and to improve it in this edition. Incidentally he has added thereto.

In this day of interest in colonic irrigation, the author's views on that subject are naturally looked for and that particular chapter will be scanned as much as any other in the book. He apparently believes in the idea but does not go into ecstasies over it, nor does he claim it as a cure for everything.

The whole subject is presented in a conservative and concise way. The subjects are treated thoroughly but with no more words then are required and physicians may regard it as a most useful and practical text book.

The illustrations aid materially in explaining the text matters.

Physical Diagnosis. By Austin Flint, M.D. Revised by Henry C. Thacher, M. D. of Roosevelt Hospital, N. Y. 9th edition. 320 pages. Philadelphia and New York: Lea & Febiger, 1925.

This manual, which has already gone through eight editions, is intended to present in brief form the principles of physical diagnosis. The hope of the revisor lies in the belief that,

despite all the laboratory methods, we should get back to first principles of diagnosis, so far as physical signs are concerned.

We commend the stand of the author, because there has been too much of a tendency on the part of the profession to depend upon the laboratory, and too little upon auscultation and percussion.

As is to be expected the book is a standard.

The Crippled Hand and Arm. By Carl Beck, M.D. 243 pages, 302 illustration. Philadelphia and London: J. B. Lippincott Company, 1925.

One would hardly presume that an entire book could be devoted to this subject, yet the author has by means of most instructive illustrations and interesting text presented a most useful and helpful volume. His experience has been very wide and this has enabled him to show his readers the various methods for the rehabilitation of function. The chapters include not only the anatomy and physiology of the parts but go into congenital deformities, hands crippled by injuries, by mutilation, by injuries, by burns and by disease, as well as the various disturbances which cripple the function of the hand.

The Technic of Local Anesthesia. By A. E. Hertzler, M.D. of the University of Kansas. 272 pages, third edition, St. Louis: C. V. Mosby Co., 1925.

The doctor who reads this book carefully should be able to utilize novocain as a local anesthetic without the slightest difficulty. we are coming to the point where operative procedure is under local anesthesia quite the proper thing and is very many times to be preferred to a general anesthetic. The author has had an unusually wide experience in operating by this method and his dictum may be regarded as authoritative. Those who have felt hesitancy in employing novocain as an anesthetic agent may feel so no more. Hertzler has made the matter so clear and simple that he who runs may read.

A Piscatorial Physician

Dr. John W. Shuman, the well known Los Angeles internist, and a valued contributor to the MEDICAL TIMES, was caught by a photographer as he was proudly showing six one and three-quarter pound rainbow trout which he had caught at Gibraltar Dam, Cal. on May 1.

Why is it that fishermen always have to be photographed when they get a string? To non-fishermen, it is suspicious.

Cancer of the Prostate

A number of years ago it was said that 10% of prostatic cases were cancerous. Baldwin says that this statement was considered very radical and entirely too high. Now, it is considered very conservative to put the proportion at 20%, and the author is inclined to believe that cancer of the prostate is much more common than generally supposed.—(*Ohio State Med. Jour.*)

Public Health Law

(*Concluded from page* 165)

medicine also being health officers. There are some that do it successfully, but there are many difficulties in the way. It is undoubtedly true that a few take advantage of their positions as officials to improve their own practice, but that is by no means the rule and it is a difficult thing to do. It is much more likely that they will lose practice as the result of being health officers. The difficulties arise chiefly from the fact that they have to deal with physicians who are competing with them in practice.

As for the district state health officers, they have established their status, as has Dr. Laidlaw in Orange County whom Dr. Kelly referred to, not through exerting any legal authority that they have, but through making themselves useful in the field. They have been of so much assistance to the health officers and other physicians in their districts that most of them have succeeded in establishing their status without having to do much of the bluffing that Mr. Warren spoke of.

In regard to the local public health laboratories, Dr. Smith paraphrased Mr. Warren's expression with reference to health officials and said that "*some* of the laboratories are doing efficient work." When a certificate of approval is issued to a local laboratory covering certain examinations it simply means that this laboratory has demonstrated its ability to meet the established *minimum* standards of efficiency. There is no question but that some of them are doing work of a character below the average, but I believe Dr. Smith will agree that generally speaking they are now doing better work than they did eight or ten years ago. The approvals issued under state regulations apply only to examinations of specimens in certain communicable diseases and to analysis of water and milk. We have no control over other work that they do such as toxicological, clinical and pathological examinations.

When it is definitely determined that a laboratory which has been approved is not meeting the minimum standards, the approval is not continued. Only recently the reapproval for communicable disease examinations was refused in the case of a laboratory which for severel years has had a contract to do public health laboratory work for the city in which it is located; it had become evident that there was either inability or unwillingness to comply with the standards.

Dr. Kelly spoke of the city hospital laboratory; I was instrumental a few years ago in getting the state hospital commission interested in securing an amendment to the Insanity Law permitting state hospitals for the insane having approved laboratories to enter into contracts with adjacent municipalities to do their public health laboratory work. A bill is now pending in the legislature to make a similar change in the Charities Law with reference to Craig Colony for epileptics. The state hospital at Ogdensburg is doing laboratory work for St. Lawrence County and the state hospital at Utica is doing it for the City of Utica and there has been some talk of having the work for the rest of Oneida County done there.

Mr. Warren: In answer to Dr. Coghlan's question, I can only say that the State Health Department has no jurisdiction over the State Board of Pharmacy. The provisions that govern it are in the public health laws, but the provisions to enforce the law are vested in the Board of Regents.

Studying the Child

During childhood, when the structure and functions of the body are not yet fully developed, congenital or acquired diathesis are frequently present as a back ground of various obscure diseases, and unless the predisposing or underlying constitutional anomaly of the child is diagnosed and treated, many chronic ailments will remain unknown and untreated. In the diagnosis, prognosis, and successful treatment of disease in early life, the presenting disease and the receding pathological diathesis must be definitely known. The exudative diathesis is a derangement of childhood which manifest itself by some abnormality of the skin, mucous membrane, lymph glands, and general nutrition.

The exudative child is subject to various skin affections. There is a tendency to frequent attacks of bronchitis, asthma, and intestinal indigestion. It usually occurs in overfed children, and is probably the result of auto-intoxication, unless the underlying exudative or toxic diathesis is recognized, treatment of the various manifestations of the skin and mucous membranes will do little good. The exudative child should not be overfed, and the sugar and fat should be restricted.—*J. Epstein.* (*Arch. Pediatrics.*)

Sciatica

Sciatica is often relieved by five grains of sodium bicarbonate at bedtime, followed in the morning with a saline laxative. Many cases of sciatica are due to a distended colon.—(*Ther. & Diet. Age.*)

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NEW YORK, JULY, 1925

Dr. John Addison Fordyce

In the passing of Dr. John Addison Fordyce, professor of dermatology and syphilology in Columbia University, at his home in New York on June 4th, the medical world has lost one of its most noted exemplars.

Dr. Fordyce stood at the head of his particular branch of medicine in the United States and was, as a matter of fact, one of the world's outstanding dermatologists. He probably did more to place this specialty on a firm foundation than any man of this generation.

In his researches in syphilis Dr. Fordyce gained unusual fame. He was an intimate friend of Ehrlich, and when that master chemotherapeutic mind devised salvarsan it was to Dr. Fordyce that he sent one of the first batches for clinical trial in the United States. He also sent the first neosalvarsan, which came to this country, to Dr. Fordyce, and the first dose of this new product was administered under his direction at City Hospital of New York by Dr. Smith of Michigan, at that time one of the house physicians.

Not only was Dr. Fordyce a great physician, but he was the finest example of what constitutes the true gentleman. Always urbane and ever courteous, he took his confreres into his confidence in a way which characterized very few of the leading physicians of the day. It mattered not whether the physician were an obscure practitioner from some rural district, or a man of eminence, his demeanor with them was the same. There are thousands of physicians throughout this country today to whom the death of Dr. Fordyce comes as a personal tragedy.

Dr. Fordyce was not a voluminous writer on the subjects in which he was interested, but everything which did come from his pen bore the stamp of authority. His word was regarded as law by practitioners everywhere, and as a result, he probably saw more patients from outside of New York than any other specialist practicing in the city.

This held good not only in this country but abroad. He was the one dermatologist known to foreign physicians, and if his office records for the past twenty-five years could be opened to the public eye, they would show that a large percentage of his patients were referred to him by physicians outside the confines of the United States. This was due, in considerable measure, to the very frequent trips which Dr. Fordyce made abroad, at which time he was called upon to address or read papers to the members of learned dermatological and syphilogical societies in the various European countries. These organizations honored him with membership, and he was a corresponding member of more European societies than almost any other American physician.

The doctor was only sixty-six years old, but those who knew him intimately could scarcely realize that he had passed the half century mark. His mind was keen and alert; his viewpoint was youthful. His medical knowledge was kept up to the very minute and he showed every sign of getting younger as the years progressed. This was due in part, at least, to his association with younger people. His relationship with his children was very intimate, and his associates were of the younger generation.

It is needless to re-count the honors which came to this genial medical gentleman.

He was a graduate of Albion College, Michigan, and took his original degree of doctor of medicine from the Chicago Medical College in 1881. In 1888 he received another medical degree from the University of Berlin. In the early days of his practice the qualities, which afterward showed themselves so prominently, were revealed to men in hospitals, which resulted in an early connection with these institutions. Later on he became professor of dermatology and syphilology in the University and Bellevue Medical School, Medical Department of New York University, and he occupied that position for many years. A number of years ago he was elected to the same chair in the College of Physicians and Surgeons of Columbia University, and he continued to grace that position until his death.

Dr. Fordyce was a member of many of the leading medical societies, was visiting dermatologist to the City Hospital, and consulting dermatologist to the Neurological Institute, Presbyterian Hospital, Women's Hospital, New York Infirmary for Women and Children, Babies' Hospital and the Sloan Maternity.

It will be difficult indeed to fill the many positions which Dr. Fordyce occupied with so very great credit, and it is hardly likely that, in this generation, there will be another dermatologist-syphilologist of his type.

The General Practitioner's Library

The *Journal of the American Medical Association* recently published (March 28, 1925) what it considered a basic medical library for a hospital, and the list was a comprehensive and valuable one. A basic medical library for the general practitioner, which would include indispensable classics and also the best contemporary works of the greatest practical utility and scientific up-to-dateness, should also be suggested. The latter list, if it were to be made up, would, in our opinion, suffer appreciably if it did not

record the two volumes containing the Practical Lectures delivered on Friday afternoons for several seasons past in the auditorium of the Medical Society of the County of Kings, in Brooklyn, New York. They are the best material, far and away, for the general practitioner's every-day purposes, of which we have knowledge.

Evolution

During the session of May 28, the House of Delegates of the American Medical Association adopted a resolution recording its opposition to any attempt to interfere with the teaching of scientific facts in public institutions. The resolution, of course, was aimed at the misguided efforts in Tennessee and elsewhere to prohibit the teaching of matters pertaining to evolution. The resolution very properly was couched in broad terms, for Bryan, the "Apostle to the Morons," and other folk of his type might just as well object to the teaching of astronomy and geology as to the teaching of evolution, since they also are irreconcilable with a literal interpretation of Genesis.

Syphilis the Subtle

The late Doctor MacLaurin, author of *Post Mortem* and of *Mere Mortals,* those notable studies of great men of the past from the medical angle, had very decided views as to the disastrous social effects of syphilis. Thus, in *Mere Mortals,* he remarks that "The great problem before the civilized world to-day is not the cure of cancer; it is the prevention of syphilis." He even goes so far as to say that "We are making a mistake in concentrating on the search for the discovery of the will-o'-the-wisp cause of cancer, which, though a very terrible and horrible disease, possibly associated into the very mystery of life itself, has probably less important social effects than either syphilis or malaria. I do not merely refer to the actual death-rate from these diseases, though it is probable that syphilis indirectly causes more deaths than cancer, tuberculosis or overeating. The trouble is that syphilis works in so mysterious a way; it is sly and subtle in its effects; it lies long latent and springs up again to the slaughter after the man who is its victim has long forgotten that he ever had it." Finally he writes: "It does no good for politicians to wrangle over trifles such as the German restitutions when there is a very much more dreadful menace knocking at the world's doors."

Heredity and Environment

Professor C. M. Child of the University of Chicago believes that environment and heredity share "fifty-fifty" from the beginning in the shaping of the individual.

Working with the lower forms of life, Child has shown that it is possible to develop individuals differing widely from normal forms of the same species.

Child has been able through the employment of chemical agents, temperature effects and electrical currents to change the character and arrangements of various organs.

If there can be such extensive control and alteration of the course of individual development through laboratory experimentation, it would seem to follow that one is not necessarily fashioned by purely hereditary factors from birth.

Child concludes that heredity determines what kind of an organism shall develop from a given cell, whether a palm tree, an earthworm, a fish, a bird, or a human being, but that it cannot alone determine the development of any individual palm tree, earthworm, fish, bird or man.

The Age of the Child

Whence comes it that interest in the life of the child is waxing to such a high point? Why the feverish concern with the psychology, health, happiness and capacities of the child? The child is the very centre of the social scene, the cynosure of loving and thoughtful eyes.

This phenomenon owes its occurrence merely to the fact that fewer children are being born into the more intelligent and successful groups, and are consequently being given an inordinate amount of attention and care.

The only danger inherent in this intensive program is the coming of a child subjected to all this unwonted and meticulous attention to a belief in his uncommonness.

If this danger is destined to grow in proportion as the birth-control movement gains momentum, ultimate consequences will be vicious.

But perhaps we shall learn how to safeguard the child against this worst of menaces.

Perhaps.

A Significant Step

A resolution was adopted during the recent meeting of the American Medical Association at Atlantic City condemning the practice of medicine by corporations, such as the Life Extension Institute. Any attempt by commercial organizations to dominate in what is properly the practitioner's field in connection with periodic examination for the prevention and early detection of disease, is opposed to the best interests of the patient, according to this resolution.

Presumably as a consequence of the foregoing action, steps have been taken to abolish the Medical Advisory Board of the Life Extension Institute.

Miscellany

Conducted by ARTHUR C. JACOBSON, M.D.

He Would Shorten Medical Study

In the address delivered by President W. A. Pusey of the American Medical Association at the recent Congress on Medical Education in Chicago, there appears what to a hasty reader might seem to be a plea for lowering standards as regards the instruction given to students in the medical colleges. Dr. Pusey insists that he has no such wish and makes no such demand. He does say, however, that medical education now takes so much time and costs so much money that the graduates no longer will or can afford to perform in either country or city what he calls "the ordinary service of medicine in society."

The results are more serious, as yet, in the rural districts, many of which now are without doctors and many more are served only by men advanced in years. The young men simply will not go to places where the income they can earn is incommensurate with their needs and their reasonable ambitions, and even when they settle in the large cities they tend to become specialists, in expectation of gaining the higher reputation and the larger rewards.

But it is the general practitioner, according to Dr. Pusey, who alone can give the sort of medical ser-

vice for which the majority of men and women everywhere can pay. So he insists that while it is a fine thing to have a few medical colleges with huge endowments, providing facilities for research carried to the limits of possibility, these institutions are not solving the problem which now confronts the medical profession. He believes in the maintenance also of small medical colleges and in the shortening of the time devoted to the hearing of lectures and the studying of textbooks; but he also would have a return to the old system of apprenticeship after graduation for a year or two under a practising doctor, for this he believes gives a knowledge of immense value, not to be acquired in any other way.

The argument that the field of medicine is vastly broader than it used to be, and so necessitates longer study, he dismisses as leading to the absurdity of an ever lengthening period of preparation, at last covering a whole lifetime.

A Choice Between Alternatives

Dr. Pusey condemns those who hold that every doctor should know all of medicine, and declares that extension of the time of teaching by no means assures a corresponding increment of knowledge or that a shortening of it results in its decrease. He wants medical training to be active, and he denies that the products of medical education as it was gained by the older men now in the profession produced incompetents.

He might have said that not a few of today's most distinguished practitioners would fail to pass the examinations now demanded of young graduates, for the latter are expected to know a vast number of details which the old doctor either never learned or, having found no use for them in his practice, has forgotten.

Dr. Pusey holds, too, that medical education has become not only unnecessarily expensive for the student, but that it costs the college too much—so much that the tendency is an undue restriction in the number of colleges and a consequent failure to produce, in the amount needed by the country, what he calls "distributable medical service"—service available to the patient with small resources. If present methods continue, he forsees either a complete breakdown of service or else a socializing of medicine, with the doctors all subsidized by the State, and to such socialization he is firmly opposed.

These are large problems, and they must be solved by members of the medical profession. There seems to be no reason, however, why the public should not know of their existence—should not know why it is that the country doctor is fast disappearing and the general practitioner in the city going not much less rapidly.—*New York Times,* May 7, 1925.

No Change of Opinion Is Indicated

There is no necessary contradiction between the pronouncement of the American Medical Association in 1917, to the effect that no service in the treatment of disease was rendered by alcohol that could not as well or better be rendered by other drugs, and the vehement protest made by the same organization at this year's meeting against the provision of law which limits the amount of alcohol which a physician may prescribe to a patient in a given period.

The association might remain of the same mind as eight years ago and still feel it an unwarranted exercise of legislative power, and one justly to be resented, when men not doctors assume to tell men who are what, when and how much they are to give of any substance which in their opinion will restore health or preserve life. That would be the position of the doctor who had abandoned the use of alcohol as a medicine, just as much as it would be that of one who considered it an often useful medicine and sometimes the very best at his command.

The Medical Association never thought of dictating to its own members in regard to the drugs they were to administer or the treatment they should follow in any case. All that was left to individual discretion, and though the 1917 vote on alcohol as a replaceable drug was by a large majority, there was no attempt at coercing members who persisted in thinking it in some cases the best available.

How the doctors stand on that question at present is uncertain. Probably they are divided much as they were when the vote was taken, except that legislative interference with the exercise of a power they consider exclusively their own may have weakened such antagonism to alcohol as previously existed in the medical profession.—*New York Times.*

Diagnosis and Treatment

Radium in Gynecology

One of the newer problems that confront the gynecologist is the production of amenorrhea or sterility for other reasons than those of local uterine disease is the opinion of William P. Graves of Boston. Of these the most important are the intractable dysmenorrheas and the intolerable headaches or other nervous manifestations that are dependent for their existence on the menstrual rhythm. In selected cases of this kind radium has proved of much value.

With the spread of lay knowledge of radium and its effects, patients of other types are applying for treatment, namely those who desire sterility on the grounds of expediency. The problem of treating these patients is an ethical one. In the case of married women who wish sterilization the procedure, in our opinion, should be the same as that in the matter of inducing abortions. There should be two other consultants and the decision should be made on the basis of the patient's physical health and not on that of her personal wishes or domestic exigencies.

When sterilization is desired for immoral purposes, treatment is obviously unethical and borders on criminal practice.

Perhaps the most important field of work in gynecology today is the treatment of cancer of the uterine cervix. Before the advent of radium the extended Wertheim operation had reached the limit of its possibilities and progress depended solely on the improvement in skill of the individual operator. Radium has given us new hope in treating this dreadful and rapidly increasing disease. In its use as a palliative, there is almost no case so far advanced in which the distressing discharges and often the pain may not be alleviated by irradiation.

In less advanced but still incurable cases the disease may with few exceptions be checked by a single treatment, so that the patient may live from one to three or even four years in perfect health. Reoccurrence when it does take place is apt to be internal and unassociated with the offensive discharges and fistulate that were formerly universal in the final stages.

It is in the so-called operable case that the question of the indication or contraindication of radium arises. Though not a few surgeons have discarded operation altogether in favor of radium, we have not yet personally come to a final conclusion. At first convinced that it was the duty of the surgeon to operate on every operable case instead of taking the more comfortable path of irradiation we have nevertheless made certain concessions to the radiologists. We have for example greatly modified our classification of cases. We have changed the term "operability" to "curability by operation," which has quite a different significance. Whereas we formerly over a period of many years operated on about 60 per cent of all cases, we now

subject to operation only about 20 per cent. During the last five or six years we have carried on parallel series of operated and radiated cases, in which the disease is limited to the cervix and frankly curable by either operation or radium. Such patients have been chosen for irradiation as, on account of obesity or constitutional weaknesses, incurred a special risk in operation. Sufficient time has not elapsed to draw authoritative conclusions from this series, especially as the operated cases greatly exceed the others in number.

Nevertheless a recent comparison of the two types of cases of less than five years' duration shows a similarity of results that, it must be confessed, has been somewhat surprising to the writer and encouragingly favorable to the use of radium.—(*Am. Jour. Obst. & Gyn.*, April, 1925.)

Dysmenorrhea

The treatment of dysmenorrhea, is highly unsatisfactory, largely because its true causes are not yet understood, says C. J. Miller of New Orleans. Most logical of all treatments, especially in young, unmarried women, are the general hygienic measures. It is astonishing how frequently we find young girls violating all the laws of proper living. There is no more valuable prophylactic measure than regular daily exercise, such as work in a gymnasium, tennis, horseback riding and walking, and such exercises should be continued, at least in moderation, through the actual flow. Constipation should also be corrected, not only for the sake of the general health but particularly because during the period impacted feces naturally add to the pelvic congestion already present and so markedly increase the pain. He has frequently found that a simple laxative or purgative taken just before the flow is expected to appear will either eliminate or diminish a large part of the pain usually experienced.

The daily bath should be continued through the period, and sufficient sleep at regular hours is imperative. The correct mental attitude is also very important. The patient who anticipates a trying experience and prepares for it in advance by changing her entire mode of life during the time, who goes to bed with hot water bags and anodynes even before the pain appears, usually gets just what she expects. Pain is frequently severe enough to demand these and even more decided measures of relief, but the patient should wait until the actual need arises before she institutes them. In short, the general treatment for dysmenorrhea lies in correct hygiene throughout the month and particularly throughout the period. Patients should be taught that menstruation is a function which is not pathologic in itself, and that a large part of their cure lies in their own hands.

Various drugs have been used to relieve the acute features of the condition. Aspirin is routine, and codein and morphin are occasionally necessary, though they should never be prescribed without the strictest indications and their use should be limited in every way. Atropine sulphate given two or three days in advance of the flow sometimes gives excellent results. Benzyl benzoate, one of the newer remedies, has enthusiastic advocates. Guaiacum, bromide of potassium, luminol, etc., all have certain virtues but their effect at the best is temporary and in no sense curative. A hot bath taken just at the onset of the flow, and sometimes followed by a warm enema, frequently gives results better than those usually obtained from drugs.

Miller is interested in the present tendency to resort to organotherapy on the ground that hypoplasias are of frequent occurrence. The various theories which have been evolved in regard to the action of the active principles of the ductless glands are so fanciful that he believes it is high time we were collecting our actual results instead of administering such medicaments indiscriminately. Can the administration of the individual and combined extracts of the various ductless glands cure developmental errors, and what percentage of cases are relieved by such treatment? In the first place we wonder whether developmental errors are so frequent as we have believed in the past. The most careful bimanual examination still forces us to form our opinion of the uterus largely by the condition of the cervix, and a uterus which has been set down as infantile will often reveal itself, if the abdomen be opened for other reasons, as of normal size and development.

Again, an incompletely developed uterus will often permit the passage of a sound to normal length. And just what is a normal uterus? We have no absolute standards by which to judge. If the cervix is long and conical, with the anterior lip almost absent and the anterior vaginal wall short, we are usually dealing with an undersized, acutely anteflexed uterus, but even in so obvious a case as this we may be mistaken. And granting that these conditions do exist, how far does organotherapy help? Miller's personal experience in the treatment of dysmenorrhea and the sterility which so often exists with it by such means, in no ways coincides with the enthusiastic reports found in the literature. In the occasional case it has acted like magic, though he had better results with thyroid extract than ovarian, which is scarcely logical, but my results on the whole are largely disappointing. He still feels justified in resorting to it when we have reason to believe that there is aberrant function, and he can find no other definite cause for the dysmenorrhea.

In the line of operative treatment, however much we may decry the use of the curette, dilatation and curettage still remain the commonest form of treatment in the severe cases and probably give the largest percentage of temporary and permanent cures. The short time at my disposal did not permit an accurate review of my records, but a cursory investigation shows that some 40 per cent have obtained permanent relief, while from 25 to 40 per cent more have obtained partial or temporary relief, results quite as good, as any other method of treatment can show. The reason for the relief is still a matter of debate. The pain may be due to a spasmodic contraction of the circular fibers at the internal os or to an undue amount of connective tissue at that point, but the fact remains, that a thorough divulsion of the cervix, with or without curettage, rarely fails to give at least temporary relief. When it is combined with the glass intrauterine stem the results are even better. In a series of fifty-eight cases which Miller was able to follow up from one to ten years, 45 per cent reported permanent and 36 per cent partial relief, making only 19 per cent in whom the operation entirely failed. Of course this procedure has very definite limitations. It can be used only in dysmenorrhea of the definitely obstructive type, when an ingantile uterus is present, and when there is no suspicion of infection. It is unphysiologic, but in spite of that fact, if the stem is worn for two or three menstrual periods, it usually gives results.

The dissection of the bladder from the anterior wall of the uterus above the internal os has not been so successful in my hands as to justify its continued employment. The various operations on the cervix, particularly those of Dudley and Pozzi, are of little value. They are largely based on the mechanical theory that the kinking of the cervix in anteflexion causes obstruction and were devised with the idea of straightening out the canal. Not only is the pathology faulty but the after-condition of the patient is frequently worse than the first. The everted edges of the cervix give rise to cystic changes and leucorrhea, and repair is often necessary, just as in the ordinary cervical tear after labor.

Membranous dysmenorrhea is perhaps the most trying phase of this condition and all types of treatment are highly unsatisfactory. Repeated curettage usually fails, sterility is the rule and many of the patients are also neurotic. Personally he has found galvanism a very valuable remedy. He has relieved several intractable cases by the use of the negative pole in the uterine cavity, using from 10 to 15 Ma. for five to eight minutes within the week prior to menstruation.

He reports one case treated by radium for what it is worth. The patient had reached such a state from continued suffering that relief of some sort was imperative, and used 25 mg. of the radium element for eight hours, hoping to check menstruation for a few months and give her time to recover her balance, so to speak. Since then, now more than three years, she has menstruated with very slight discomfort and has not passed distinct membranes as before the application.

We sometimes meet in women over thirty an acute type of dysmenorrhea which has grown progressively worse in spite of treatment and which is gradually resulting in a distinctly impaired physical and mental condition. Fortunately such cases are rare, but we do meet them occasionally and we cannot ignore them. Radical measures are necessary, and it is still a question whether radiation or hysterectomy is the more conservative procedure. Miller uses radium very cautiously in women under forty. The dosage sufficient to check menstruation permanently, and any other result is usually without avail, would affect the ovaries also and might lead to loss of balance of the internal secretions. Moreover, radiation does not always check intermenstrual pain.—(*Am. Jour. Obst. & Gyn.*, April, 1925.)

Milk in Disease

Adam H. Wright, Chairman, Ontario Department of Health, believes that the directions given as to diet in acute fevers, (typhoid, rheumatic, etc.), are generally brief and sometimes narrow. For instance, we get such rules as the following: "Give milk, farinaceous foods, and suitable drinks;" "nothing but milk while the temperature is ninety-nine or above it;" "only milk and farinaceous food."

Such precepts or directions are considered by many, axiomatic. They are not new in a sense, they are close to one hundred years old. If we go back a number of centuries, we find that in what we may call ancient times, the teaching of Hippocrates

prevailed. The custom then was to withhold nourishment (including milk) from those having continuned fever, and give them only weak tea, water, barley water, etc., during the actual febrile stage.

Rather less than one hundred years ago, the great physician, Graves, came. He said the "starvation method" was wrong, and used instead, nourishing food, especially milk, in large quantities. Before long Graves' views were generally accepted.

To a considerable extent, at least, we agree with the disciples of Graves as to the value of milk, but differ regarding some details. It is frequently, if not usually termed, "liquid food which is easily digested." Soon after it reaches the stomach, however, it becomes a solid food, which is more or less, difficult of digestion.

We find this fact well expressed in that remarkably good work on "Modern Therapeutics," written by French savants, translated and edited by Louis Sajous, of Philadelphia. "The customary classification of food is more artificial than real." We should consider the food, "not as it is to start with, but as it is when it reaches the stomach." The writer goes on to tell us the results of certain investigations carried out by himself. He found that the milk, which was rapidly ingested, formed in the stomach a large curd which was hard to break down, but on the other hand, bread masticated for some time, reaches the stomach as a kind of paste. This shows that a food classed in the group of liquid foods, may behave like a solid food in the stomach, while another food, such as bread, which is classed in the solid group, is pultaceous when it reaches the stomach, and actually a liquid when it reaches the duodenum.

Chalmers Watson, of Edinburgh, told us fifteen years ago, that after milk reaches the stomach, a solid curd is formed therein by the ferment rennin and the acid of the gastric juices. There is also a process termed "clotting" which he says must be distinguished from curdling. This clot consists of the solidified casein with fat entangled in its meshes. It becomes more tough and less easily digested than the curd lump. In enfeebled states of the digestive parts, the hard, indigestible mass which forms, proves an irritant to the whole intestinal canal, and sometimes is recognizable unchanged in the feces.

Milk is an excellent food in both health and sickness, but as an exclusive diet under any circumstances, it suits very few, if any. I know a couple between the ages of forty and fifty, both strong and healthy, the husband loves milk and can take four glasses a day with comfort. The wife "hates" it, and in her case one half-a-glass at any time causes discomfort. Surely we can hardly expect this woman to drink two quarts of milk a day if she contracted a continued fever. But take two persons not as far apart, each having a limited capacity for milk. With such, it is often difficult to decide as to amounts which should be prescribed. When you give solid food, such as bread and butter, a man can stop eating when hunger has ceased, but when you give liquid milk, thirst may be a predominant factor, and the patient cannot tell when he has taken enough for the food needs of the body. We should also consider changed conditions in diseases, especially in the digestive parts. Supposing one can take and digest three or four pints of milk a day when well, we do not know that he can assimilate that amount when sick. I have mentioned particularly three or four pints of milk a day because that was the quantity strongly recommended by Burney Yeo. He advises, along with the milk, large amounts of water, lemonade, etc., making altogether 150 ounces of liquid a day. When milk disagreed, he gave whey.

Milk is the best food for infants and young children. To a lesser extent it suits the aged. It is the custom in the House of Industry, Toronto, to give old people occasionally milk alone for limited periods. The inmates, knowing this, usually ask for the milk when they get *off color*, and get is as long as they want it. They enjoy it and derive much benefit, but grow tired of it in six or seven days, and then, at their own request return to their ordinary diet. When I first learned this some years ago, I thought it odd that all or nearly all should want the exclusive diet for almost the same definite time, six or seven days. I have also found that in the continued fevers, especially typhoid and rheumatic, patients who took milk willingly in the first week, frequently grew tired of it in the second weeks.

After graduating, I for some time prescribed the exclusive milk diet in continued fevers and also in the toxemia of pregnancy. After careful observation, I acquired the opinion that milk was not always easily digested and that its influence for good in these diseases was very slight or non-existent. We should remember, however, that milk contains a greater variety of nutriment than any other food or class of foods. Within proper limits it is serviceable. Excess may make it harmful. As to limitations, we should name one or two instead of three or four pints as the maximum per day. As to substitutes, we rely namely on buttermilk, or occasionally artificially soured milk. We have expunged whey because it has little nutrient value on account of the removal of fat and casein.

In order to prevent the evil before mentioned of drinking milk because of thirst rather than hunger, I have made it a rule to give at all meals, water first, as as much as he cares to drink, then the milk. If he prefers not to drink the full glass of milk, let him take only as much as he likes. If he drinks the full glass and would like another at the close of the meal, give it to him, but never urge him to take at any time more than he wishes, whether it be an ounce, gill or pint. I also think that no milk should be given between meals. The stomach gets no real rest, not even partial relaxation, when milk has been taken every two hours. Let it always be understood that he may drink water when and as often as he likes, and as a matter of fact, should be encouraged to do so.

Having ever in my mind the value of milk in proper quantities, my desire is to trust to nature's wishes as represented by the desire of the stomach. In this way I hope to get all the nutriment possible from this many-sided and admirable food. —(*Canada Lancet*, June, 1925.)

Effect of Germanium Dioxid on the Rabbit

G. H. Bailey, P. B. Davidson, Boston, and C. H. Bunting, Madison, Wis., have not found germanium dioxid to be a hematopoietic stimulus in the rabbit. On the other hand, although a rabbit may survive a large dose of the drug (more than 200 mg. intraperitoneally), yet, in doses as small as 4 mg., the drug is toxic for the main parenchymatous organ, resulting either in the death of cells, or in an eventual atrophy following a state of hydropic degeneration with increased autolysis. (*J. A. M. A.*)

Transfusion of Lymphocytes

A patient in an advanced stage of generalized lymphosarcoma, whose white blood cells were 6,400 per cubic millimeter and lymphocytes 15.5 per cent., was transfused by G. R. Minot and Raphael Isaacs, Boston, with 450 c.c. of blood from a patient with chronic lymphatic leukemia, whose white blood corpuscles numbered 89,000 per cubic millimeter and lymphocytes 95.6 per cent. This transfusion produced no greater benefit than one with normal blood. The transfusion caused the percentage of lymphocytes in the recipient's peripheral blood to be increased immediately about threefold, and their absolute number nearly four times. The number and percentage of lymphocytes dropped almost to their pretransfusion level within thirty-five minutes of the completion of the transfusion, and reached this level within at least two and a quarter hours without a subsequent significant change. There was no evidence that the transfused lymphocytes were destroyed in the peripheral circulation. (*J. A. M. A.*)

Correspondence

The Peril of Narcotic Drugs

To the Editor of the MEDICAL TIMES:—

At the request of Captain Richmond P. Hobson, President of the International Narcotic Education Association, I am sending under separate cover copy of a document entitled, "The Peril of Narcotic Drugs," and am enclosing copy of a letter sent to all Superintendents of Education and Superintendents of Schools, which will give you some idea of the plan on foot to instruct the youth through their teachers and parents.

This is in the nature of an emergency, nation-wide program and will be pushed forward to completion through the end of this year and the next scholastic year.

Captain Hobson informs me that the Board of Directors of the International Narcotic Education Association, at their spring meeting in Los Angeles. May 12, 1925, beside approving the carrying to completion of the Nation-wide teachers and parents program, adopted a resolution for a world conference on Narcotic Education to be held in the summer of 1926 in connection with the Sesqui-Centennial celebration in Philadelphia, to be preceded by a program of intensive study and research, attended by widespread educational publicity, and followed by the practical application of standard policies and programs in all lands. I am enclosing copy of the resolution.

Captain Hobson, as President of the International Narcotic Education Association, has officially requested me to introduce a bill in Congress for an appropriation for a fitting participation in the Conference by the Government of the United States as host to the governments of other lands. This I have agreed to, as it will be in pursuance of the resolution adopted at the Geneva Conference committing the nations to a policy of Narcotic Education.

It is hardly necessary to point out to you that this problem is challenging all nations and has become serious and urgent. Take the situation in America for instance. In 1919 the special survey of the Treasury Department reported the number of ad-

dicts in the United States as exceeding 1,000,000, and increasing. In the February 1925 issue of Current History, Fred A. Wallis, Commissioner of Corrections, New York City, says, "Of all the plagues visited upon our land, drug addiction is by far the most horrible and the most deadly * * *. The increase in narcotics has been accompanied by an increase in crime * * *. Heroin changes a misdemeanant into a desperado of the most vicious type * * * 60% of the inmates in all penal and correctional institutions of New York City are users or sellers of drugs * * * There must be in the greater city of New York close to 200,000 drug addicts of the underworld type * * * There are many more of whom nothing is officially known."

The health officer of Chicago, investigating cause of crime there, found drug addiction alarming among the youth of both sexes. Last year the Assistant U. S. Attorney General reported that more than 40% of all prisoners being convicted in Federal Courts were addicts and that the number is increasing.

Judge McAdoo of the New York City Courts estimates that of the thousands of addicts who have appeared before him, 98% were below the age of 30 and 98% were Heroin addicts. The heroin addict is inherently a recruiting agent and soon recruits a gang. The members of this gang in turn soon start recruiting other gangs. I am anxious to learn your sentiments as a representative citizen who reflect and helps to create public opinion. It would be gratifying to hear from you, that you and those whom you contact, approve the proposed Conference, and, in principle, the proposed bill for the participation of our Government, and that in your columns you will cooperate to make the Conference a success of lasting benefit to humanity.

The object of this letter is to ascertain from editors, the measure of public opinion this bill will receive.

Congressman W. F. Lineberger, sent a copy of this the following letter to 5000 county and city superintendents of education.

"At the request of Captain Hobson, I am sending you and other Superintendents, fifty copies of a document entitled, "The Peril of Narcotic Drugs." The basic materials contained in the first part of the document, I am informed, have been reviewed and corrected by a committee of eminent, scientific men and the lessons contained in the second part have been prepared by Teachers' College, Columbia University.

"The original plan was to have Congress enact a bill to print and distribute these documents to teachers and parents at Government expense but the measure has just failed of enactment because of the congestion of bills in the short session. Considering the document of such vital importance to the public, I have secured unanimous consent of the House to print name in the Congressional Record, making it frankable.

"Sending out this document is particularly pertinent at this time because of the Geneva Conference on opium and narcotic drugs just ended where the United States was represented, which brought to the attention of the civilized world the universal menace of narcotic drugs. The one thing upon which all nations there represented were unanimously agreed, was the importance of inaugurating everywhere a policy of education on the peril of narcotics.

"Would you lay the matter before your Board and see if a way can be found locally to get the document into the hands of parents, as well as teachers? I feel that you will find sympathetic cooperation from the press and pulpits, the Parent-Teachers, and other organizations. You are at liberty to print and use the document, or any part of it, without copyright limitations, or without reference to its sources. Please command me if you wish additional documents in franked envelopes ready for directing and mailing without postage like those I am sending. If so, I will refer your order to the Public Printer and will authorize him to supply them to you at cost, $4.11 per thousand. Make check payable to Public Printer; and until the next session of Congress, address me at 4315½ West Second Street, Los Angeles, California.

"I have been informed by Captain Hobson, who is directing this work for the International Narcotic Education Association, and who is the author of one of the articles contained in the document, that it would be helpful if Superintendents, teachers and others should make notes and send suggestions and criticisms, particularly those that come from actual experience in teaching so that standard texts and methods may ultimately be perfected for incorporation permanently in our education curricula.

"Believing the dissemination of this information will accrue beneficially with tangible results in the uplift of humanity, I feel that I am fulfilling a public duty in bringing this document to your attention and am hoping for your earnest cooperation in this matter of such high public policy."

World Conference on Narcotic Education

RESOLVED: That a World Conference on NARCOTIC EDUCATION shall be held in the City of Philadelphia about the third week in June, 1926.

RESOLVED: That the League of Nations be requested to call a conference of the Opium Committee, the Mixed Sub-Committee of the Health Committee, and the Advisory Committee on the Traffic in Opium, and such other organizations as our PRESIDENT shall deem proper, to meet at the same time and place with educational agenda only.

RESOLVED: That the PRESIDENT of the United States be requested to invite the Governments of the World to join with our Government in participation.

RESOLVED: That Congress be requested to make an appropriation for a fitting participation of the Government of the United States.

RESOLVED: That the PRESS, the PULPIT, the MOTION PICTURES, the RADIO, EDUCATIONAL OFFICIALS, federal, state, local, CIVIL, RELIGIOUS, EDUCATIONAL, PATRIOTIC and other constructive ORGANIZATIONS and INSTITUTIONS be requested to cooperate.

BE IT FURTHER RESOLVED: That the PRESIDENT of the INTERNATIONAL NARCOTIC EDUCATION ASSOCIATION, with the advice and consent of the Executive Committee, is hereby authorized to appoint committees and take other steps deemed necessary or advisable to carry out the provisions of this Resolution.

WALTER F. LINEBERGER.
Member of Congress, 9th District of California.

In Re Prohibition

To the Editor MEDICAL TIMES:—

I have been interested in the editorial in the May number, on "Prohibition Increasing Poverty."

I am one of your "Prohibition Friends" but am glad that my observations are quite opposite to yours. This may be a "naive reading of the signs" and may be like our "other contentions, etc." The wording of this editorial I am quite sure does not do you justice as a careful and thoughtful man certainly would not use phrases as I have quoted.

My observation is that there is much less drinking and drunkness than formerly and far less drinking. I think that it is generally conceded that there has been a moral let down along all lines, even running into our National Government. With this condition it is not surprising that this let down should extend to illegitimate liquor dealers as well as elsewhere. I am quite sure that thoughtful people do not think that our National government has been as sincere in its efforts to enforce the law as many think it should have been.

You refer to the repeal of licenses for automobile drivers being due to drunkenness. We have almost no such repeals with us and I believe they would be more common with the old license system in effect. It must be remembered that the number of automobiles have increased vastly in numbers since the license system was in force and it is hard to make a fair comparison. We must remember that foreign countries still with their liquor, have had a somewhat similar breakdown morally and financially that we have had. I do not see that our breakdown can be charged to prohibition. I was not satisfied with the license system for various reasons that you already know. It remains to be seen whether prohibition is to be better. You probably know that the prohibitionists do not feel that the enforcement so far has been fully in the hands of its friends. For example as at present, Secretary of the Treasury Mellon is at the head of the enforcement department and it is generally understood that he has large financial interests in breweries and distilleries. He might be very much interested in waging a war upon outside violators, yet he is hardly the man you would select to enforce the law within our own borders. He is an eminent financier but we claim that it would be better to divorce the enforcement department from that of Secy of the treasury.

It is not to be expected, as our Senator Pepper has just stated, that it will be an easy thing to enforce the law but after we regain our sense of proportion more clearly it may become an easier matter. In our own county we have an organization for educational purposes and to aid our officers in the performance of their duties, etc., etc.

My reaction to your editorial has not been at all favorable to the sentiments expressed or implied. I doubt the accuracy of your conclusions. I detest your form of argument which consists of sarcasm and perhaps ridicule which is not called for and which one who is seeking the truth on a great moral and economic question will not use.

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